

RLTS 2010 Background Report: Taranaki Region – key regional characteristics and relevant statistics

Introduction

In order to consider and understand the trends and issues for the transport system in the region, it is important to consider the physical characteristics and the demographic or economic trends which will influence our demands on the transport network. The following report has therefore been prepared as background information for the Regional Land Transport Strategy 2011 review process. It provides an outline of:

1. The geography of the region and the demographic/economic characteristics of the Taranaki region which have an influence on the planning, provision and management of the region's transport network.
2. The key features of Taranaki's land transport network.

This information provides the necessary context for the issues and challenges outlined in Chapter Five of the Regional Land Transport Strategy.

Key regional characteristics

Geography

At 723,610 hectares, the Taranaki region makes up approximately 3% of New Zealand's total land area.

Approximately 2.6% of the country's population lives within this area, with the region collectively contributing around 2.8% of national gross domestic product.

Physical geography

Geographically defined by one of New Zealand's most recognisable landmarks (Mount Taranaki), the region consists of four distinct landforms, which naturally impact on their prime uses and therefore transport needs.

Volcanic ring plain: The Taranaki ring plain, centered on Mount Taranaki/Egmont, consists of fertile and free draining volcanic soils. The ring plain supports intensive pastoral farming (particularly dairying) that is most intensive on the flatter land in southern Taranaki. Over 300 rivers and streams radiate from Mount Taranaki/Egmont, and are extensively used by the agricultural sector, primarily for community water supplies and for a wide range of recreational purposes.

Eastern hill country: The hill country that lies to the east of the ring plain is steeply dissected and prone to soil erosion and slipping. However it can support both pastoral farming and commercial forestry when managed in accordance with the physical limitations of the land.



Marine terraces: The soils of the coastal and inland marine terraces along the north and south Taranaki coast are among the most versatile and productive in the region. However the combination of light, sandy soils and strong winds in some areas can lead to localized wind erosion.

Coastal environment: The region is exposed to the west and as a consequence, high-energy wave and wind conditions dominate the coastal environment. There are few areas of sheltered water beyond the major estuaries and the confines of Port Taranaki.

Weather and climate

The Taranaki region has a temperate climate with generally abundant rainfall. The region lies in the path of weather systems moving east over the Tasman Sea and the climate is usually sunny and windy, with moderate temperatures and regular rain throughout the year. Annual rainfall varies markedly, ranging from less than 1,400 mm in coastal areas to more than 8,000 mm at the summit of Mount Taranaki.

The climate and subsoils are suited to high-producing pastures, with about 60% of the region used for high intensity pastoral farming. Approximately 40% of the region is in indigenous forest and shrubland, mostly within Egmont National Park and areas of the inland hill country. The region also has significant natural resources beneath the ground in the form of oil and gas reserves, being known as the energy centre of the country.

Figure 1: The Taranaki region – location and local government boundaries

Location

The Taranaki region is located on the west coast of the North Island of New Zealand. The region extends from the Mohakatino catchment in the north, to the Waitotara catchment in the south and inland to the boundary of (but not including) the Whanganui catchment (Figure 1). It also extends 12 nautical miles offshore to include the waters of the territorial sea.

Local government administration within the Taranaki region is carried out by the Taranaki Regional Council and three territorial authorities: the New Plymouth, Stratford and South Taranaki district councils. Adjoining the Taranaki region are two other regional authorities: Environment Waikato to the north and Manawatu-Wanganui to the east and south.

The urban centres of the region are New Plymouth, Hawera, Waitara, Inglewood, Stratford, Opunake, Eltham, Manaia, Patea and Waverley.

Population structure

Taranaki's total population was 104,127 at the March 2006 Census (Table 1). Over the last 10 years, the population of Taranaki has decreased from 106,590 to 104,127. However during this period there was a slight 1.2% increase in population between 2001 and 2006. This small increase reflected buoyant economic conditions and compared to a national population growth rate of 8% during the same period.

The population distribution throughout the three districts in the Taranaki region is shown in Table 1. Overall, the region accounts for 2.6% of New Zealand's population¹, with the main population centre being New Plymouth. The general trend in recent years has been a decrease in the population of smaller rural towns and a further concentration of the population in north Taranaki.

Local authority	Total population				
	1996	2001	% change 1996-2001	2006	% change 2001-2006
New Plymouth District	68,112	66,603	-2.2	68,901	3.5%
Stratford District	9,546	8,883	-6.9	8,889	0.0%
South Taranaki District	29,133	27,537	-5.5	26,484	-3.8%
Taranaki region	106,587	102,858	-3.5	104,127	1.2%

Table 1: Population changes in Taranaki 1991-2006¹

The general trend between 2001 and 2006 was for a decrease in the population of the smaller rural towns and an increase in the concentration of people in North Taranaki. This is the result of several factors, including reduced employment opportunities in rural areas through farm amalgamations, closure of dairy processing factories and reduced employment in servicing and other industries, combined with land diversification, lifestyle and retirement opportunities in North Taranaki². As of 2008 66% of residents lived in the New Plymouth District, 25% in South Taranaki and approximately 8% in the Stratford District³.

According to the medium statistical projections from Statistics New Zealand, the resident population of Taranaki is projected to decrease to 103,800 by 2031⁴. It is expected that the New Plymouth District is the only territorial authority to experience an increase in population during this period, with the remaining two authorities still showing a decreasing population trend. With regard to population density, Taranaki is about average in relation to the rest of the country (14.3 people per square kilometre compared with 14.9 nationally)⁵.

¹ Statistics New Zealand, 2006: Census of population and Dwellings, Final Counts.

² Taranaki Regional Council, 2009: State of the Environment Report.

³ Department of Labour: Annual In-depth Regional Report - Taranaki Region 2008.

⁴ Statistics New Zealand, 2007: Population Projections 2006-2031.

⁵ Statistics New Zealand: Taranaki Region Quarterly Review March 2008.

Local authority	2006	2031	Percentage change
New Zealand	4,027,947	5,089,470	26.4%
New Plymouth District	68,901	72,200	4.8%
Stratford District	8,889	7,860	-11.6%
South Taranaki District	26,484	23,800	-10.1%
Taranaki region	104,127	103,800	-0.3%

Table 2: Population projections for Taranaki 2006 – 2031

The Taranaki population has a higher proportion of children under 15 years of age (21.8%) and adults over 65 years of age (14.8%)⁶, compared nationally with 21.5% and 12.3% respectively⁷. This may be due to lifestyle factors, with Taranaki seen as an attractive and desirable place for family living, with good facilities and affordable housing. Those in the 19-29 age groups often leave the region for further tertiary education or employment opportunities.

With regard to future predictions on age demographics, it is anticipated that there will be a gradual growth in the number of residents aged 65 and over in Taranaki during the 2006-2031 period (as demonstrated in Figure 2).

Changes in population growth, demographics and location will have significant implications on the future use and development of the region's roading and transport network.

Regional ethnicity

Taranaki's population is less ethnically diverse than the population of New Zealand as a whole. 2006 Census data demonstrates that 77% of Taranaki are European/Pakeha (compared to 67% nationally) and 15.8% are Maori (an increase from 11.9% in 1991). Nationally, Maori make up 14.6% of the population. Those belonging to Pacific (1.4%) and Asian (2.2%) ethnic groups are much lower than for New Zealand as a whole (6.9% and 9.2%, respectively). Those in Taranaki who indicated their ethnicity as New Zealander was 13.6% compared to 11.1% nationally.

There are eight recognised iwi whose 'rohe' or tribal areas fall either wholly or partially within the Taranaki region. The rohe of Ngati Ruanui, Nga Ruahine, Taranaki, Te Atiawa and Ngati Mutunga are located completely within the region. The rohe of Ngati Tama overlaps the Waikato region in the north, and those of Ngati Maru and Nga Rauru overlap the Manawatu-Whanganui region to the east and south.

Households

As at 2006, there were 39,897 households in Taranaki with an average household size of 2.5 people (compared to 2.7 nationally)⁸. Factors contributing to the trend of smaller household size include: a more aged population, a slightly higher number of couples without children and a slightly smaller number of couples with children than the national average. In these Taranaki households 92% have access to a motor vehicle.

In Taranaki, 56.5% of households in private occupied dwellings own the dwelling (with or without a mortgage), above the 54.5% average for New Zealand⁹.

These statistics are of relevance to anticipated growth and land use changes in the region, as the amount of home ownership can influence economic activity and can be an indicator for the number of new residential dwellings needed to satisfy the

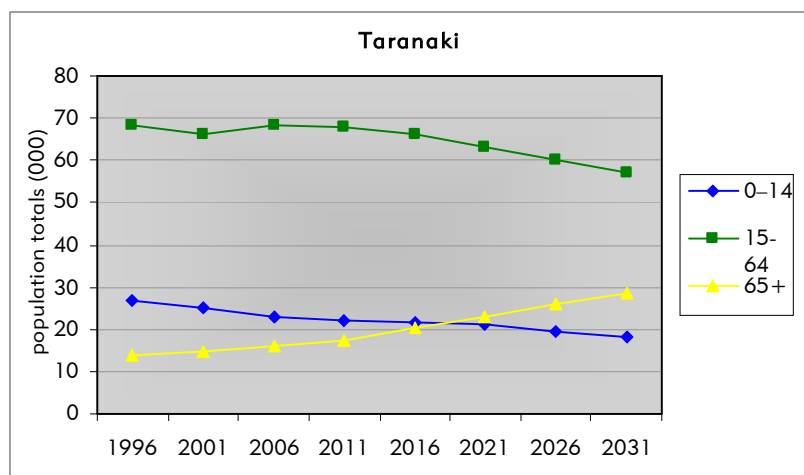


Figure 2: Projected age demographic changes in Taranaki 2001 – 2021

⁶ Statistics New Zealand: Census of Populations and Dwellings, 2006.

⁷ Statistics New Zealand: Census of Populations and Dwellings, 2006.

⁸ Statistics New Zealand: Census of Populations and Dwellings, 2006.

⁹ Statistics New Zealand: Census of Populations and Dwellings, 2006.

demand for housing. Figure 3 demonstrates the ratio of home ownership to non-ownership in both Taranaki and other areas of New Zealand.

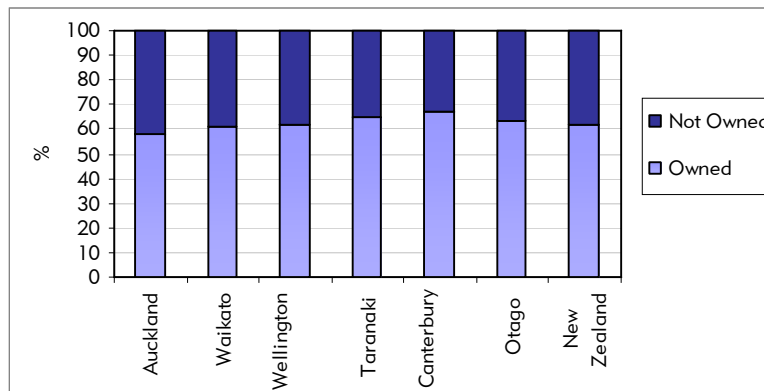


Figure 3: Home ownership to non-ownership ratios for selected NZ regions

Employment

Employment factors have an important link with transport, both in terms of commuting workers (i.e. between home and the work place) and through the transport activity generated by the production of goods and services. It is therefore important to identify the occupational structure of employment in Taranaki.

A notable feature of Taranaki is its reliance on the region's natural and physical resources for its economic and social well-being, with pastoral farming and other land based activities continuing to play a prominent role in employment. The significance of all forms of agriculture to Taranaki is reflected in the high rate of combined employment in agriculture, forestry and fisheries (16.2% of Taranaki's labour force) compared with the national average (7.5% of the labour force)¹⁰.

Figure 4 demonstrates this by identifying the following four industries as the highest employer activities – agriculture; wholesale and retail trade; business, finance and property services; and food processing. Conversely, Taranaki has a relatively low proportion of employment in forestry, fishing, utilities and communications¹¹.

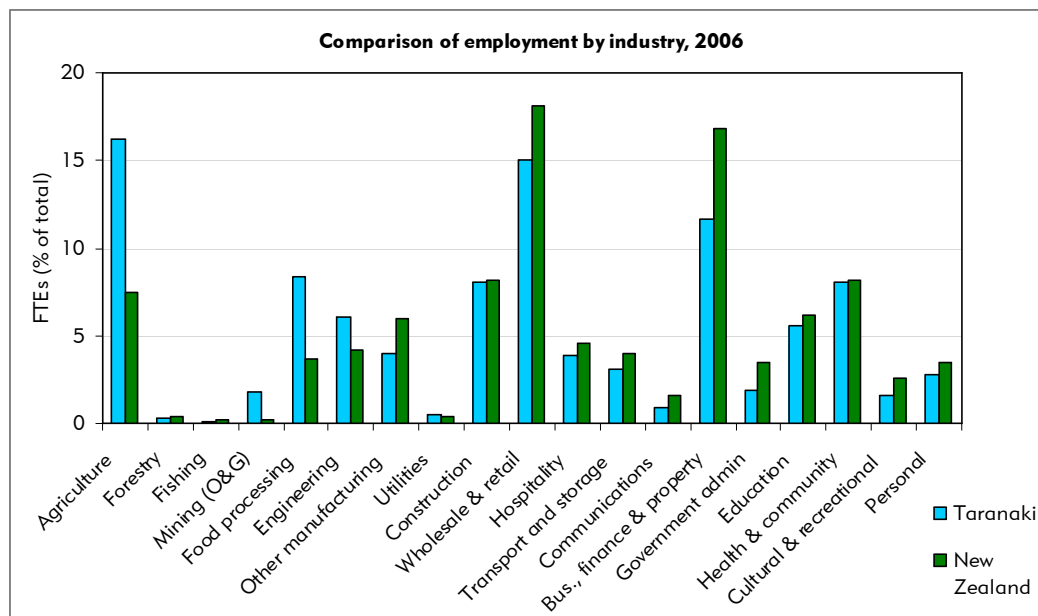


Figure 4: Comparison of employment type by industry 2006

¹⁰ Statistics New Zealand, 2006: Census Tables.

¹¹ Venture Taranaki: Taranaki Trends - Taranaki Facts and Figures, current until April 2010.

The median income of people in the Taranaki region aged 15 years and over in 2006 was \$23,200, compared with \$24,400 nationally¹². At the 2006 Census the unemployment rate in Taranaki region was 4.7%, compared with 5.1% for all of New Zealand. However, over the last four years the unemployment rates in the region have been gradually declining. As at June 2009, the level of unemployment in Taranaki was 4.2% compared to the national average of 6.0%¹³.

In 2006 Taranaki had 12,800 businesses across all sectors, or around 2.9% of the national total. Agriculture accounted for 35% of these businesses¹⁴. Total business numbers in the Taranaki region in 2008 represented 3% of all businesses in New Zealand, an increase of 0.8% from the 2007 period¹⁵.

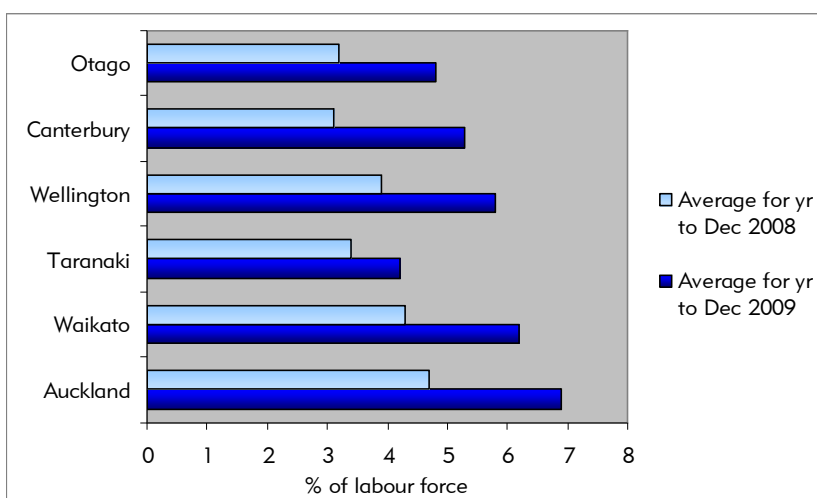


Figure-5: Average annual unemployment rates by region, 2008-2009

Education

There are two combined secondary and primary schools, 11 secondary schools, four intermediate schools, 73 primary schools, and four Kura Kaupapa Maori schools in Taranaki.

There is one public tertiary education centre in Taranaki (Western Institute of Technology at Taranaki [WITT]) which has its main campus in New Plymouth, and also two learning centres in Stratford and Hawera. There are also two private tertiary education facilities in New Plymouth known as the Practical Education Institute and the Pacific International Hotel Management School. A high proportion of Taranaki's 19-29 age group leave the region for tertiary education, with the nearest universities being Massey University (Palmerston North) and Waikato University (Hamilton).

Regional economy

In the period from 2004 to 2006, Taranaki recorded among the highest rates of economic growth in the country¹⁶. Furthermore, since 2004 Taranaki has consistently been above the national growth rate, with the exception of the year-on-year growth results for March, June and September 2007. This growth can be attributed to several factors, including: continued real estate sales; subdivision and construction developments; continued oil and gas developments; continued buoyancy in the dairy industry; more visitors to the region; increased retail expenditure; further decreases in regional unemployment levels and the fundamental shift in the global economy that has occurred over the past 4-5 years.

The effects of globalisation and the addition of an extra two million people in the global economy via India and China has also driven down manufacturing prices. This has increased activity, along with a growing middle class and has seen the demand for energy and commodities increase significantly. The Taranaki region, with its agriculture, food processing (meat and dairy) and energy focus, has therefore been well placed to take advantage of the shift. The economic growth recorded in Taranaki over the past 4-5 years largely reflects this shift in the global economy¹⁷.

Towards the end of 2009 Taranaki recorded its first quarterly rise in economic activity in more than a year, with the region among 12 areas to post a rise for the September 2009 quarter, according to a National Bank regional trends report released in November¹⁸. Figure 6 provides a snap shot of Taranaki's economic activity in past years relative to the national average. As highlighted, Taranaki's annual and quarterly growth (June 2009) has slipped below the national average and the trend mirrors the recent tightening economic conditions since June 2008¹⁹.

¹² Statistics New Zealand: Census of Populations and Dwellings, 2006.

¹³ Department of Labour: Annual In-depth Regional Report: Taranaki Region 2008.

¹⁴ Venture Taranaki, 2007: Taranaki Industry Projections 2006-2026.

¹⁵ Taranaki Regional Council: Annual Report 2008/2009.

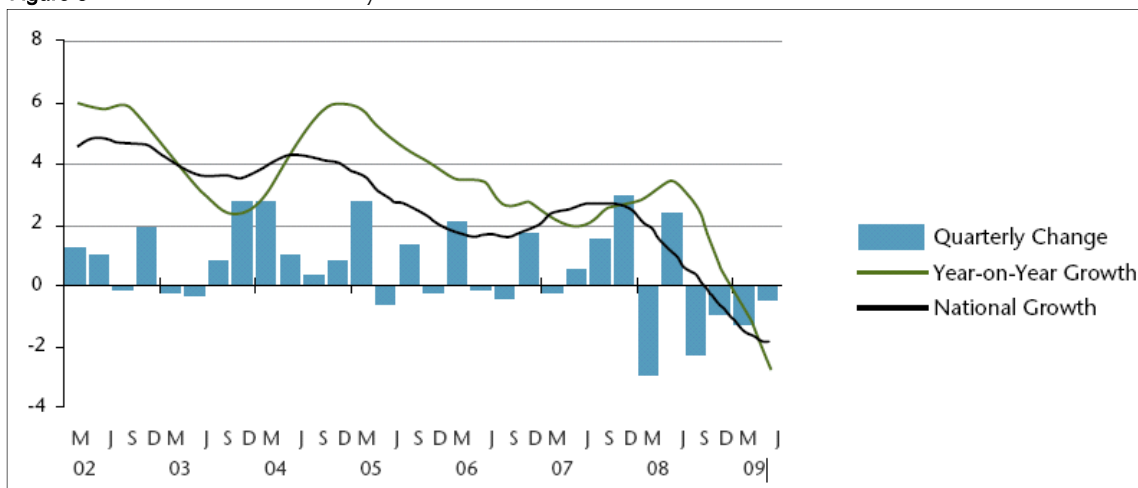
¹⁶ Taranaki Regional Council: State of the Environment Report 2009.

¹⁷ Taranaki Regional Council: Annual Report 2008/2009.

¹⁸ Taranaki Daily News: Economic Activity on the Rise, 20 November 2009.

¹⁹ Venture Taranaki: Taranaki Trends - Taranaki Facts and Figures, current until April 2010.

Figure 6: Taranaki's economic activity between 2002 and 2009²⁰



Projections are that Taranaki's economy is going to grow faster than the national economy over the next 20 years, primarily due to the growing importance of the oil and gas sector. Associated industries such as engineering, manufacturing, hospitality, transport and storage industries are also likely to see a rapid expansion as a result. A recent economic report identified that the region needs to attract an additional 21,800 working residents over the next 16 years (i.e. in 2026) to keep pace with forecasted economic growth²¹.

The following section provides an outline of the industries influencing the regional economy of Taranaki (in no particular order), all of which play an important role in directing the land transport needs of the region.

Oil and gas

The oil and gas industry is a major contributor to the Taranaki economy and is of strategic importance to New Zealand, with the Taranaki Basin currently New Zealand's only commercial hydrocarbon producing area. The Kapuni and off-shore Maui fields contribute the major portion of New Zealand's natural gas resources, despite the gradual decline of Maui's resources. Other smaller fields produce crude oil and/or gas and condensate. Figure 7 identifies the location of the major oil and gas fields in Taranaki. However, by world standards, Taranaki remains under-explored.

Extensive drilling programmes adopted by various companies have resulted in several significant finds over the last 10 years: the Mangahewa onshore gas and condensate field was discovered in 1997, Maari offshore field in 1998, Rimu onshore field in 1999, Kauri in 2001 and the Pohokura offshore gas field in (the largest gas and condensate find in 30 years) in 2000. Smaller oil and gas fields include the offshore Tui, Amokura and Pateke. Production stations or gas treatment plants are found at Oaonui, Kapuni, Waihapa, Rimu, Kaimiro and the McKee oil and gas field. An ammonia urea plant is located at Kapuni, UF resin plant at Waitara and gas-fired power stations at Stratford and New Plymouth²².

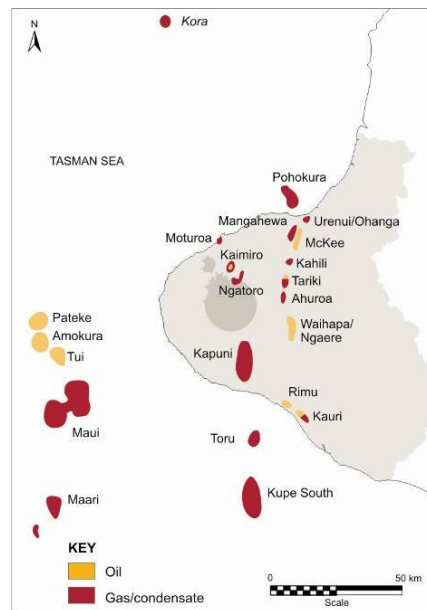


Figure 7: Main oil and gas fields in Taranaki

Both the McKee (1984) and Kupe (1986) fields were discovered earlier than those identified above. However, they remained largely undeveloped until recently due to an abundant supply of gas from the Maui fields. These fields have now become more viable to develop due to the 're-determination' of Maui's future gas supplies. Exploration interest in Taranaki therefore remains high.

The sector is stimulated by the increased global demand for energy, high and rising local and global energy prices, and central Governments efforts to increase exploration in New Zealand's largely under-explored regional and national oil reserves. The two largest projects currently being undertaken onshore in Taranaki at present do not involve the development of any new oil or gas fields. Rather they include the \$250 million redevelopment of the largely depleted Ahuroa gas field and the associated \$250 million construction of a gas peaker power plant at nearby

²⁰ Venture Taranaki: Taranaki Trends - Taranaki Facts and Figures, current until April 2010.

²¹ Venture Taranaki, 2007: Taranaki Industry Projections 2006-2026.

²² Taranaki Regional Council: Annual Report 2008/2009.

Stratford. The power project will be New Zealand's first quick start, gas fired peaking power plant and Ahuroa will be the country's first natural gas underground storage facility. Both will shape the future of New Zealand's gas and electricity industries²³.

The presence of oil and gas in the region has given rise to industries involved in the processing, distribution, use and export of hydrocarbons. The oil and gas industry makes a significant contribution to the Taranaki economy. In the year ended March 2006, the oil and gas industry employed 817 fulltime workers (1.8% of the region's fulltime employment) and generated \$741 million - almost 17% of the region's GDP. The proportion of GDP accounted for by the mining sector (oil and gas) is therefore unique in New Zealand. When spin offs to other industries such as engineering and construction are added, the contribution to regional GDP exceeds \$1 billion and 3,000 jobs²⁴.

The greatest demands on the transport system tend to take place during the exploration, development and initial production phases of oil and gas exploration activities. Aggregate and other materials are transported during the site preparation phase, often resulting in significant short term loadings, particularly on local roads. Ultimately, in the longer term (and provided it is economically viable) most products of petroleum exploration are piped to and from various processing or treatment plants. In the short term products are transported via road tankers.

Engineering

Taranaki is recognised as New Zealand's premier region for engineering. The specialist services of engineering, manufacturing and design have established an enviable record for their mechanical and electrical fabrication, engineering design and project management, and comprehensive support services for the industry.

Taranaki's engineering base can deliver across the complete spectrum of engineering services from taking projects based on feasibility and environmental studies through to total project management, engineering design, construction and maintenance. These solutions have been achieved due to the close proximity and strong relationships between the designers, project managers and fabricators of the region with their products built primarily for the following industries: glass product and ceramic manufacturing; structural, sheet and fabricated manufacturing; wholesale trade; plastic product manufacturing; mining and quarrying; rubber manufacturing etc.

Taranaki also has a transport network and infrastructure which underpins the performance of the engineering industry, including:

- a deep water port
- rail links to major centres throughout New Zealand
- the provision of a heavy haul route with super heavy loading capacity which stretches from the industrial heart of New Plymouth to the Port
- transportation services which include the capability to lift and transport loads in excess of 600 tonnes
- sophisticated, non destructive testing and inspection facilities
- corrosion protection expertise
- state of the art surveying services²⁵.

Dairying

Agriculture (including dairying) is Taranaki's biggest employer, with 6,730 people employed in the industry. It generates around \$425 million for the region annually, with approximately 70% of people working in dairy farming²⁶. Dairying therefore dominates farming in Taranaki, particularly on the ring plain. There are approximately 1,900 dairy farms in Taranaki (16% of all dairy farms in New Zealand), with more than 490,000 dairy cows producing approximately 12% of New Zealand's total milk solids²⁷. There are also 1,932 dairy herds (16.3% of all New Zealand dairy herds²⁸). Of all the milk production in the Taranaki region, 65% is produced on farms throughout the South Taranaki District, 22% in the New Plymouth and 13% in the Stratford District²⁹.

Dairy products produced in Taranaki lead the world in terms of their innovative developments, quality, packaging and presentation. The broad product range includes:

- Cheese: cheddar, egmont, granular, mozzarella and other specialty soft cheeses
- Cream products: anhydrous milk fat (AMF)
- Bulk butter
- Powder: butter milk, icecream (soft serve) milk protein concentrate, skim milk, whole milk (including instant and fortified powders)
- Protein products: alamin, casein (whey protein concentrate), cheese WPC
- Lactic casein, lactose, stock foods.

²³ The New Zealand Petroleum Industry, June 2009: Report prepared by Alpha Communications Ltd for Venture Taranaki Trust.

²⁴ Venture Taranaki, 2007: Taranaki Industry Projections 2006-2026.

²⁵ Venture Taranaki website information 2009. www.taranaki.info

²⁶ New Plymouth District Council: Roading Asset Management Plan, Version 5.1, June 2009.

²⁷ Taranaki Regional Council: Regional Policy Statement for Taranaki, January 2010.

²⁸ Livestock Improvement Corporation, 2007: 2006/2007 Dairy Statistics.

²⁹ NZTA Central Region: Central Freight Report Analysis, Final Report 2009.

Milk processing in Taranaki is now concentrated at one site – the Fonterra Whareroa Dairies Ltd site near Hawera, which is Fonterra's largest factory. At peak production this facility processes over 14 million litres of milk per day, sourced from throughout the lower North Island³⁰. Other major agricultural processing industries are based at Kapuni (formerly Lactose NZ Ltd) and Eltham (Mainland Product Limited and New Zealand Limited – Enzyme division). In addition to direct farm income from milk production, the added value by the processing of milk, whey and cheese manufacturing is a significant contributor to employment³¹.

Amalgamation trends have resulted in a concentration of the processing industry in the southern part of the region. This process of centralisation has placed an increased reliance on the region's roading network (in terms of demand, safety and maintenance) to transport milk from the 'farm gate to the factory'. Such a concentration has resulted in significant changes to the pattern of road use by milk tanker traffic, notably the concentration of milk processing at the Whareroa site near Hawera.

At Fonterra's Whareroa site (the second largest milk processing plant in the Southern Hemisphere), a fleet of 49 tankers collect milk daily from 6,000 farms in the Lower North Island in a 24 hour 7 day a week operation, with each tanker travelling 900 to 1000 kilometres over 24 hrs. In an arrangement between Kiwirail and Fonterra, milk is also collected from Hawkes Bay and Manawatu farms, off-loaded into milk silos at Longburn and Oringi then pumped into trains (16 wagons per train – 50,000 Litres per wagon and 800,000 Litres in total) and railed to Fonterra's Whareroa, Hawera site. Five trains arrive within a 24 hour period at the peak of the season³². This has had a significant effect upon local roads and intersections and has created:

- tanker entranceways – safety and administration issues
- increasing demand for additional tanker parking areas
- intersection upgrading demands
- wider bridges and underpass demands
- demands for the provision of additional passing opportunities.
- stock crossing points affecting pavement and safety

Forestry

Compared to pastoral farming, forestry is not a major industry in Taranaki with 1.3% of land area covered by planted forest. However, exotic forest plantations continue to expand, accounting for approximately 1% of New Zealand's plantations of exotic trees intended for harvest. This is demonstrated by the marked increase in exotic forest plantations in the region from 9,700 hectares in 1990 to an 26,044 hectares in 2007. The region is also notable for the large number of small scale owners³³. Inland hill country potentially provides a large land resource base for forestry in a region that would have favourable growth rates. Much of the inland hill country area is also within economically viable distances from processing and port facilities.

As a consequence of the increased establishment of exotic forests throughout the region, a significant tonnage of logs has required transportation to user plants or ports for export. There is therefore a need to ensure that the region's land transport infrastructure can accommodate (safely and economically) this potential increase in demand for log transport.

Horticulture and cropping

Horticulture and cropping do not amount to significant land use in Taranaki – approximately 800 hectares of land is presently used and there is plenty of potential for further development³⁴. The most widespread crops grown include market gardens, flowers (e.g. roses) and asparagus. Maize crops (a supplementary feed stock for dairy cattle) have also expanded significantly.

Taranaki is self-sufficient in most crops, with small local growers producing apples, tamarillos, passionfruit, avocado, kiwifruit, feijoas, chillies, chestnuts, walnuts, berryfruits, some citrus fruit, strawberries and tomatoes for the local market and export. These crops are mainly in North and South Taranaki. New crops for the region include floriculture crops, ornamental plants, medicinal plants, new vegetable crops, nut crops, mycorrhizal mushrooms and plant extracts. Others that have been explored include tangelos, macadamia nuts and sugar bee³⁵.

Production rates are not expected to change significantly in the short to medium term due largely to the domination of the rural economy in Taranaki by pastoral farming operations. Despite this, tourism related to horticulture is a growing industry in Taranaki, with increasing numbers of people visiting the region's beautiful parks and gardens, particularly during the Rhododendron and Garden Festival. There are also an increasing number of market gardens and other associated businesses that offer tourism experiences. It is therefore anticipated that the horticultural demands on the region's land transport system will remain relatively constant.

³⁰ Taranaki Regional Council: State of the Environment Report 2009.

³¹ Taranaki Regional Council: Regional Policy Statement for Taranaki, January 2010.

³² Pers. Comm.: Kerry Zimmerman, Fonterra 2010.

³³ NZTA Central Region: Central Freight Report Analysis, Final Report 2009.

³⁴ Venture Taranaki website information 2009. www.taranaki.info

³⁵ Venture Taranaki website information 2009. www.taranaki.info

Manufacturing

Taranaki has a relatively small but distinctive manufacturing base. The region has also developed a national and international reputation for its expertise in food processing, particularly of dairy products and specialty dough production, as well as timber, chemicals and metal based³⁶. The special servicing needs of the dairy and petrochemical sectors (and to a lesser extent the meat, energy, industrial, chemical and timber processing sectors) have contributed to the development of both heavy and light engineering industries. As of February 2008, there were 572 manufacturing businesses in Taranaki employing 8,720 people (approximately 16% of the region's employment opportunities). The manufacturing sector also accounts for 4% of all businesses in the region. It is an important facet of Taranaki's economic base, and an important driver of wealth, regional employment and our competitive advantage³⁷.

Due to the relatively small nature of this employment base and its centralised location, the demands on the region's land transport system remain relatively constant.

Meat and wool

Sheep and beef farms (as well as specialist goat and deer farms) are largely concentrated in Taranaki's eastern hill country. There are approximately 880 sheep and beef farms in Taranaki (including lifestyle blocks), stocking 679,000 sheep and 131,000 beef cattle³⁸. The largest meat processing works are located at Eltham (Riverlands), Hawera (Silver Fern Farms Limited, Hawera) and Waitotara (Silver Fern Farms Limited, Waitotara) and are significant contributors to the regional economy³⁹.

The agricultural industry has a significant impact on the region's land transport network, especially during times of heavy stock movement, for example: on Gypsy Day when dairy farm changeovers occur, and the transportation of stock to/from processing facilities.

Pig and poultry

There are some 25⁴⁰ piggeries in Taranaki (a decline from 35 in 1996) and 46⁴¹ poultry farms (which include broiler, breeding and free range operations). Most pig farms are concentrated in North Taranaki⁴².

Taranaki has a significant and growing poultry industry. It is the major poultry meat producing region in New Zealand, involving all aspects of the industry from breeding and growing to production and distribution. This industry has also undergone expansion with the closure of Tegel production operations at Te Horo (near Levin) and their shift to north Taranaki and Auckland in 1998. Given its relatively small size, Taranaki has a high density of poultry sheds with most of these located in North Taranaki close to the major processing centre in Bell Block (Tegel Foods Limited).

Tourism

Tourism is playing an increasingly important role in the Taranaki economy, with approximately 274,738 visitors⁴³ to the region in 2007; an increase of 5.6% from 2006⁴⁴. Taranaki performed better than the national average in 2007 with regard to both guest nights and visitor numbers, domestic visitors (i.e. from within New Zealand) accounting for approximately 85% of total guest nights spent in the region. Reasons for this growth are largely due to the region's popularity and recognition for organised cultural, sporting and other events.

In the year to June 2009 a total of 336,496 room nights were sold in commercial accommodation in the Taranaki region, while there 559,316 guest nights for the same period. The length of stay averaged 2.03 nights (increase of 2.1% from previous year. This is an increase of 2.8% in room nights sold over the previous year, while guest nights fell 0.1%. Taranaki's growth rate in commercial accommodation surpassed the New Zealand average, as demonstrated in Table 3⁴⁵.

³⁶ Venture Taranaki website information 2009. www.taranaki.info

³⁷ Venture Taranaki: Taranaki Trends - Taranaki Economic Report, April 2009.

³⁸ Taranaki Regional Council: State of the Environment Report 2009.

³⁹ Taranaki Regional Council: Regional Policy Statement 2010.

⁴⁰ This figure is made up of: consented piggery effluent activities (totalling 10) and consented discharges from combined piggery and dairy effluent stands (totalling 8).

⁴¹ This figure is made up of 32 broiler farms, 1 hatchery, 1 egg producer, 7 Tegel laying sheds and 8 Ross poultry breeding farms, and only include the poultry farms which are investigated by Taranaki Regional Council staff for compliance with resource consents.

⁴² Taranaki Regional Council: State of the Environment Report 2009

⁴³ Includes only those staying in commercial accommodation.

⁴⁴ Venture Taranaki: Taranaki Trends - Taranaki Economic Report 2008.

⁴⁵ Venture Taranaki: Taranaki Trends - Taranaki Economic Report 2008.

Location	Room nights % change 2008-2009	Guest nights % change 2008-2009	Length of stay % change 2008-2009
Taranaki	2.8	-0.1	2.1
New Zealand	-1.9	-3.5	1.5

Table 3: Percentage change in room nights, guest nights and length of stay between 2008 and 2009

The Taranaki region is also becoming increasingly popular and recognised for organised cultural, sporting and other events. These events bring large numbers of visitors to the region with significant benefits for the local economy. For example, the 2008 WOMAD festival alone attracted more than 43,700 festival-goers over three days with 66% coming from out of town, and had a direct economic impact of \$2.89 million and an estimated flow-on economic impact of \$6.43 million for the region.

Tourists visiting Taranaki (largely of a domestic nature) will place additional demand on the region's land transport system, as well as potentially increasing:

- road user conflict (especially with cycling tourists)
- the number of foreign drivers unfamiliar with the New Zealand road code and local driving conditions
- demand for specialised servicing and waste disposal, particularly campervans
- demand for high quality roads into and out of the region.

The majority of visitors to Taranaki travel by surface transport (predominantly car - either privately owned or rental). However new trends are emerging in tourism with the increasing use of camper vans by the semi-independent traveler. Consequently the roading infrastructure that currently plays a significant role in moving tourists both to and around the region includes:

- State Highway 3: The main road that traverses Taranaki from Waverley (in the south), to New Plymouth and then on to the northern boundary near Mokau. This route has spectacular views of Taranaki's mountain and coast.
- State Highway 45: Because Taranaki's hemi-spherical coast offers New Zealand's most consistent surf, the 105 kilometre long State Highway 45 that hugs this coast between Hawera and New Plymouth, is also known as Surf Highway. This stretch of road also offers attractions to gardeners, fishing buffs, nature lovers and amateur historians, as well as surfers.
- State Highway 43 (or the Forgotten World Highway): Connects Stratford with Taumarunui, 150 kilometres northeast. This is a heritage trail where travellers can delve into Taranaki's pioneering past.
- The Round the Mountain route along SH3 and SH45 accesses most of Taranaki, including the whole mountain. With four roads into the Egmont National Park, Mt Taranaki is one of New Zealand's most accessible mountains. Entry points include Dawson Falls in the south, Stratford in the east, and North Egmont and Lucy's Gully both close to New Plymouth⁴⁶.

Figure 15 demonstrates the location of these main state highway routes.

Retail and service industries

Wholesale and retail industries are a significant employer in Taranaki, after agriculture, employing 15% of full-time employees in Taranaki. Other significant employers are business, finance and property services - the third largest employer group (11.6%), and health and community services (8.1%). Business, finance and property services and wholesale and retail trade are the largest contributors to regional GDP (16.4% and 10.5%, respectively) after mining (oil and gas). Smaller service industries such as hospitality and cultural and recreational services, which are important in the tourism industry, have shown strong growth in employment over the past five years.

Infrastructure

A vital part of the Taranaki economy is its physical infrastructure. The region's road and rail network, Port Taranaki, New Plymouth Airport, power generation facilities, oil and gas pipelines, transmission lines and sewerage and water treatment and reticulation systems provide essential services to the regional community and to the regional and national economies.

Taranaki is generally well connected and serviced from a roading infrastructural perspective relative to its size and population. However, there are roading and transport infrastructure issues that require ongoing attention if Taranaki is to meet its current and anticipated growth and development needs. Some of these issues concern route security and reliability (particularly in relation to SH3 north and south and SH43), network efficiency and capacity, (for example in relation to our rural roads and urban New Plymouth) and safety issues such as passing opportunities, road and bridge widths etc⁴⁷. Further information on these issues is provided in Chapter Five (Taranaki's transport issues and challenges) of the Regional Land Transport Strategy.

⁴⁶ Venture Taranaki: Taranaki Trends - Taranaki Economic Report 2008.

⁴⁷ Taranaki Regional Council: Regional Policy Statement 2010.

Industry projections

The Taranaki Industry Projections 2006 – 2026 report prepared by BERL (Business and Economic Research Limited) on behalf of Venture Taranaki Trust in November 2007 provided an overview of the Taranaki regional economy over the next 20 years. The report found that:

- Taranaki's economy is expected to grow faster than the national economy over the next 20 years. The projections indicate the growing importance (and potential) of the oil and gas sector. The share of employment and GDP accounted for by oil and gas could well double over the next 20 years.
- Associated industries such as engineering, as well as the other manufacturing, hospitality, and transport/storage industries are also likely to see rapid expansion. Along with business, finance and property services growth, these industries are expected to add around 16,500 FTE's (or 77%) of the region's employment growth by 2026.
- Particularly strong gains in GDP are expected in oil and gas; business, finance and property services; engineering; other manufacturing; and wholesale and retail trade. These five industries will contribute 83% of the increase in GDP in the region over the next 20 years.
- Employment is expected to grow by 2% per annum to 2026, while labour productivity gains could see GDP grow by 4.7% per annum.

These projections are subject to changes in underlying economic conditions both nationally and internationally, but if realised will significantly influence land transport network provision requirements.

Changes in land use patterns

Patterns of land use changes and subdivision development in Taranaki have been, and will continue to be, complex and unique to the region. However, it is evident that the increased subdivision activity in Taranaki currently reflects what is happening in other regions throughout the country, despite the fact that Taranaki's resident population numbers appear to be relatively static or slowly increasing.

Table 4 demonstrates the number and value of building consents issued in the New Plymouth, Stratford and South Taranaki district council areas between December 2003 and December 2007. The New Plymouth District had the highest number and value of building consents issued in the five years, with the total value of building consents issued adding to over \$800 million (averaging over \$160 million per year)⁴⁸.

	2003		2004		2005		2006		2007	
	No.	\$Value (000)	No.	\$Value (000)	No.	\$Value (000)	No.	\$Value (000)	No.	\$Value (000)
New Plymouth	1,317	98,100	1,566	137,500	1,648	165,200	1,741	213,200	1,635	193,100
Stratford	167	9,600	198	11,900	226	13,600	235	16,100	277	21,500
South Taranaki	459	27,000	623	62,100	625	50,500	640	52,500	683	55,400

Table 4: Number and value of building consents 2003 – 2007

Table 5 demonstrates that the number of subdivision consents issued has risen significantly since 2003. There have been substantial increases in the number and value of building consents issued in all districts in the past five years, compared to the previous five⁴⁹.

District	2003	2004	2005	2006	2007
New Plymouth	208	261	313	295	301
Stratford	32	36	59	65	65
South Taranaki	52	102	121	107	142

Table 5: Number of subdivision consents 2003 – 2007

The increases seen in the past five years have been the result of strong economic growth and business and consumer confidence which have seen consistent increases in both residential and non-residential building activity. In addition to new residential development throughout the region, major building work in New Plymouth has been associated with the new large-scale retailing development in the Waiwhakaiho Valley and industrial developments in Bell Block and the Mangati catchment. New industrial developments have also occurred along Glover Road in Hawera.

⁴⁸ Taranaki Regional Council: State of the Environment Report 2009.

⁴⁹ Taranaki Regional Council: State of the Environment Report 2009.

New house and dairy farm construction has occurred throughout Taranaki as a result of continuing farm amalgamations, as well as expenditure associated with energy developments. Of all industry sectors in the region, the construction sector has experienced the fastest employment growth (in percentage terms) between 2001 and 2006, with an increase in employment of 8.4% per annum⁵⁰.

The New Plymouth District has experienced relatively high levels of Greenfields residential development in the Bell Block, Highlands Park and Barrett Road areas. The rate of Greenfields development has slowed since 2006, with subdivisions becoming more predominant for infill housing or small lot, rural lifestyle developments⁵¹. In the last 10 years 2,800 additional households were recorded for the New Plymouth District. This equates to an average of 280 additional households each year. In the next 20 years it is predicted that between 250 and 300 new homes will be built each year throughout the district. This equates to an additional 5,000 to 6,000 households district-wide over the next 20 years⁵².

The New Plymouth District Council's recent Strategic Transport Study 2008 (which was integrated with their Framework for Growth Land Use Study) has concluded that New Plymouth's topography will limit westward and southern development. Figure 8 demonstrates the projected growth areas for the City⁵³. The following general land use patterns are set out by the Framework:

- A compact urban form is to be maintained i.e. growth to be focused around into or immediately around existing towns.
- New Plymouth and Bell Block are the main growth areas over the next 20 years.
- Strong demand for industrial land to the east of New Plymouth.
- Growth in retail and wholesale trade, professional services and oil/gas based industries.
- Light industrial/business land will be located in Bell Block (between the rail corridor and the alignment of the Bell Block Bypass).
- Industrial land will also be located in New Plymouth.

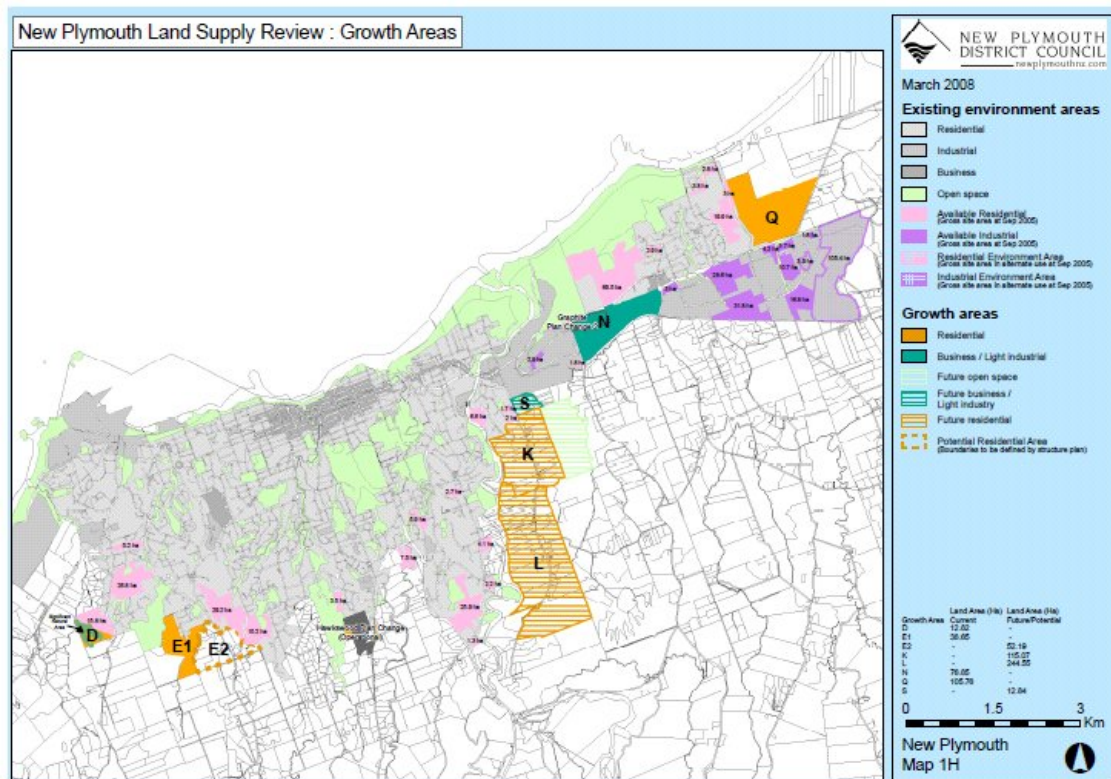


Figure 8: Projected growth areas for the New Plymouth urban area

Future growth therefore is to be accommodated northeast of the city i.e. Bell Block infill, east of Bell Block and along Smart Road. Other conclusions made from this Study are:

- A new 'ring road' to the Port cannot be justified

⁵⁰ Venture Taranaki, 2007: Taranaki Industry Projections 2006-2026.

⁵¹ Taranaki Regional Council: State of the Environment Report 2009.

⁵² New Plymouth District Council: Land Supply Review 2007-2027.

⁵³ New Plymouth District Council, March 2008: Land Supply Review 2007-2027 - Final Framework for Growth.

- State Highway 44 corridor needs to be protected for heavy traffic
- The significant transportation problem for New Plymouth is the eastern corridor from the city centre through to Bell Block
- New Plymouth is moving from a 'half cartwheel' model to a 'linear' city.

To minimise journey times to work and to services, it is anticipated that future residential expansion areas will be focused to the east of New Plymouth and around Bell Block. However it is also recognised that any developments east of the Waiwhakairo River will result in additional demands being placed on the highway network⁵⁴.

Subdivision in Stratford and South Taranaki District's in recent years has been running at levels more than double that seen in the late 1990s and early 2000s. In Stratford the increase has been mainly lifestyle block development to start with and then infill residential development, as demand for residential property and associated house prices have increased. In South Taranaki, infill subdivision has occurred throughout Hawera with new multi-lot development occurring to the west and north of the town. There has also been an increase in subdivision of coastal land, particularly in the north of the district⁵⁵. A recent Urban Growth Plan for the district has also highlighted potential pressures on the state highway network from future commercial and residential growth occurring in the area between Hawera and Normanby.

The way that subdivisions develop in Taranaki is a contributing factor to the growth of traffic in and around the region. Increasing mobility contributes to subdivision developments (particularly with the growth in coastal subdivision) and the changes in where residents live, work and play. The mobility offered by motor vehicles and the reliance on these in Taranaki, support the growth in low density housing around the periphery of New Plymouth and the smaller towns. Similarly, there can be a resultant dispersal of jobs and services away from the city and town centres to other locations. Such movements make it increasingly difficult for alternative transportation modes (e.g. public transport) to be a viable option in meeting the dispersed travel needs in both urban and rural areas.

Summary

In summary, the following outlines the key population characteristics and economic trends for Taranaki which have the potential to impact on the region's land transport system:

- intensive dairying – continued importance of road and rail
- increasing oil and gas exploration and production activities
- expanding forestry sector
- tourism growing rapidly, with considerable future potential
- alternative lifestyle destination but population decline of recent years – may reverse in the future
- house prices rising
- increasing demands for subdivision
- port expansion opportunities.

It is anticipated that all of these trends will place more pressure on Taranaki's land transport infrastructure, particularly its roading network.

⁵⁴ New Plymouth District Council: Land Supply Review 2007-2027.

⁵⁵ Taranaki Regional Council: State of the Environment Report 2009.

Land transport system

Introduction

A vital part of the Taranaki region is its physical infrastructure. This includes the region's road and rail network, Port Taranaki and the New Plymouth Airport.

As the Taranaki region covers a total area of 723,610 hectares, the region's land transport infrastructure is a physical resource of considerable importance to the people of Taranaki, as well as visitors. The following is therefore an outline of the various aspects that currently make up the land transport infrastructure of the Taranaki region, including the roading network (both local roads and state highways), the rail network and cycle/walking paths. Even though they are not necessarily recognised as 'land transport' modes, background information on Taranaki's airport and port facilities have also been included to highlight the importance of interlinking all modes of transport within the region.

Background statistics

Table six demonstrates some key statistics for the Taranaki region, including information on how the region has 5% of New Zealand's rural roads and 7% of the country's sealed rural roads (a vital part of the network which services various industries – especially the dairy industry). This is despite accounting for only 2.6% of New Zealand's total population.

	Taranaki Region	New Zealand	Region as % of NZ
Population	107,700	4,268,000	3%
Land area (km ²)	7,300	275,400	3%
Imports (gross tonne)	4,000,000	79,200,000	5%
Exports (gross tonne)	5,900,000	73,400,000	8%
Gross Domestic Product (GDP) (\$)	3,400,000,000	155,400,000,000	3%
Passenger Transport - Bus - boardings	345,900	92,777,200	<1%
Passenger Transport - Rail - boardings	-	18,346,600	-
Passenger Transport - Ferry - boardings	-	4,695,000	-
VKT (km)	1,000,000,000	40,200,000,000	2%
Fatalities on the roads	12	366	3%
Serious injury	54	2,553	3%
Local roads - urban all (km)	489	17,298	3%
Local roads - urban sealed (km)	486	16,956	3%
Local roads - rural all (km)	2,996	65,601	5%
Local roads - rural sealed (km)	2,308	33,698	7%
State Highway - all (km)	391	10,906	4%
State Highway - sealed (km)	374	10,850	3%
State Highway - motorway (km)	-	172	3%

Table 6: Key statistics on the Taranaki region (June 2007 – July 2008) ⁵⁶

Car ownership

The 2006 census indicated that there are approximately 35,340 motor vehicles available for private use in Taranaki, an increase from 33,411 in 2001⁵⁷. Economic development, increases in personal incomes and lower vehicle costs have made private vehicles more affordable. The number of households with access to 2 or more vehicles in Taranaki increased from 45.5% in the 2001 Census to 52.3% in 2006. Conversely, the number of households with no access to a private vehicle or just one vehicle has decreased since 2001.

⁵⁶ New Zealand Transport Agency: National Land Transport Programme 2009 - 12 Taranaki.

⁵⁷ Statistics New Zealand: Regional Summary Tables, 2006 and 2001 Census.

As demonstrated in Figure 9, 39.8% of Taranaki households have one motor vehicle compared to 37.9% for the national average. The number of households who have no access to a private motor vehicle is similar to the national average, however the number who own two or more vehicles in Taranaki is 52.3% compared to 54.1% nationally⁵⁸.

Private motor vehicle ownership provides transport freedom, choice and convenience in Taranaki, with the reliance on this mode of transport not anticipated to decrease in the near future. This is largely because a significant proportion of the region's population is located in areas with little or no access to alternative forms of transport (such as public transport services).

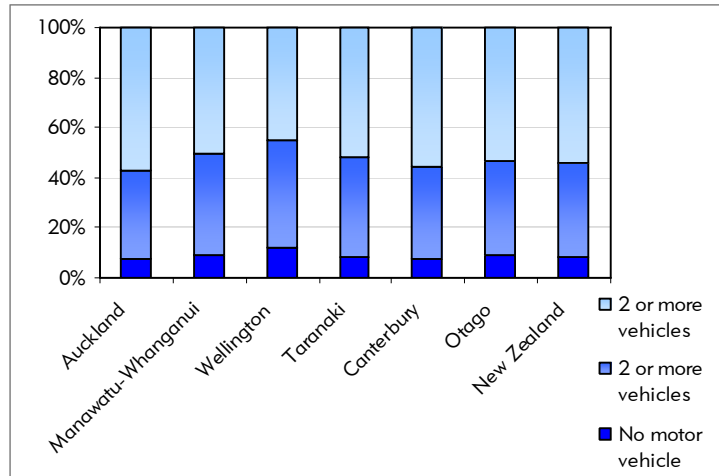


Figure 9: Vehicle ownership rates in New Zealand

Between 2000 and 2008, the vehicle fleet in New Zealand has grown from around 2,604,000 to nearly 3,197,000. Most of this growth where light passenger vehicles (i.e. cars), with around 56,317 additional light commercial vehicles, 38,785 motorcycles and 27,633 heavy goods vehicles also entering the fleet (Figure 10)⁵⁹.

Journey to work – modal choice

The most prevalent means of travel to work in Taranaki is still by car, truck or van with approximately 56% of people using this mode of transport in 2006, an increase from 53% in 2001. Only 4% were a passenger in a car, truck, van or company bus.

From 2001-2006 the trend for people to predominantly drive a car/truck or van to work within the region has remained relatively consistent with increases throughout the three districts of Taranaki. The main variance in the mode of travel to work during the period 2001-2006 was the reduction (regionally) of those either walking or cycling to work. However there was a slight increase in the number of people cycling to work within the New Plymouth District. This corresponds with a slight decrease in people working from home. The development of residential areas further from the CBD and lack of medium to higher density residential growth in the inner city area are factors that discourage people cycling or walking to work. Steep topography and climate and weather conditions are also factors that encourage Taranaki residents to use a car, truck or van⁶⁰.

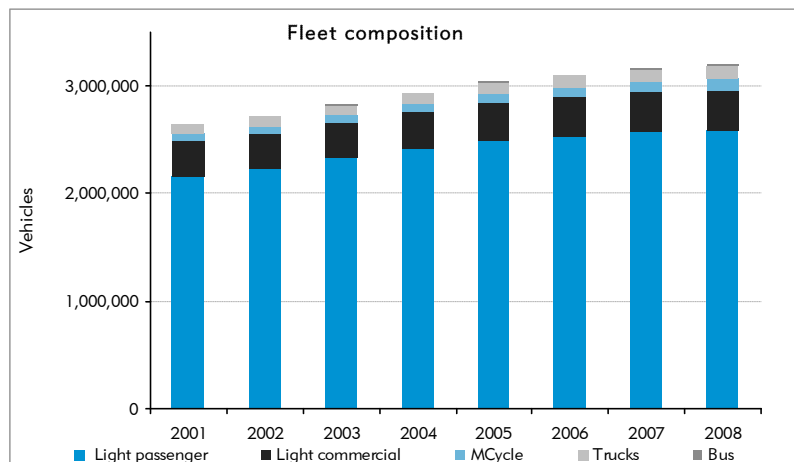


Figure 10: Composition of vehicle fleet in New Zealand 2000 - 2008

Journey to work patterns vary also in different parts of the region. For those individuals working on farms, travel to work is not always necessary. On the other hand, people living in smaller centres close to main employment commute on a daily basis.

⁵⁸ Statistics New Zealand, 2006: Census data, Regional Summary Tables.

⁵⁹ Ministry of Transport, March 2009: The New Zealand Vehicle Fleet - Data Spreadsheet.

⁶⁰ Taranaki Regional Council, 2007: Regional Walkways and Cycleways Strategy for Taranaki.

Mode	New Plymouth			Stratford			South Taranaki			Taranaki Region Total		
	2006		2001	2006		2001	2006		2001	2006		2001
	No.	%	%	No.	%	%	No.	%	%	No.	%	%
Did not go to work today	3711	10.9	12.3	420	9.5	10.9	1374	10.5	11.3	5490	10.7	11.9
Drove private car, truck or van	16779	49.5	48.6	1863	42.2	40.8	5064	38.9	36.9	23697	46.2	44.7
Drove company car, truck or van	3738	11	9.7	387	8.8	6.9	906	6.9	5.4	5034	9.8	8.3
Passenger in car, truck, van or company bus	1548	4.6	4.1	198	4.5	4.1	462	3.5	3.3	2208	4.3	3.9
Public bus	120	0.35	0.5	12	0.3	0.2	9	0.07	0.1	138	0.3	0.4
Train	9	0.27	0.1	3	0.06	0	0	0	0	12	0.02	0.05
Motor cycle	495	1.5	1.7	129	2.9	2.8	570	4.4	3.9	1185	2.3	2.4
Bicycle	681	2	2.3	36	0.8	1.1	282	2.2	2.8	999	1.9	2.3
Walked or jogged	1809	5.3	5.7	213	4.8	5.9	978	7.5	8.8	3000	5.8	6.6
Worked at home	2904	8.6	11.1	792	17.8	24.1	2292	17.6	23.5	5949	11.6	15.7
Other Means	216	0.6	0.6	24	0.5	0.2	57	0.44	0.3	297	0.6	0.5
Not specialised	1905	5.6	3.3	342	7.7	3	1032	7.9	3.7	3279	6.4	3.4
Total	33918			4416			13023			51291		

Table 7: Journey to work statistics⁶¹

Figure 11 demonstrates Taranaki's reliance on the private motor vehicle when travelling to work in comparison to the total population of New Zealand.

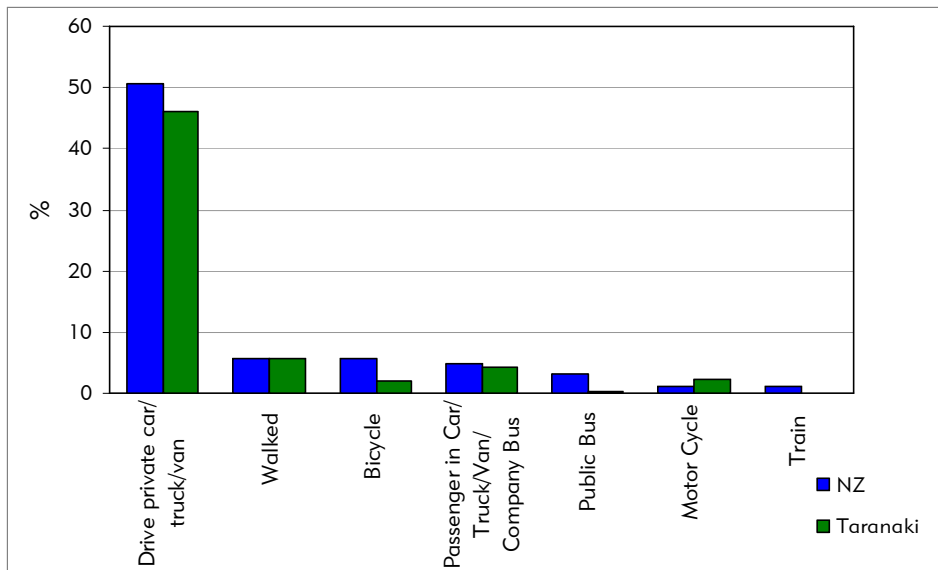


Figure 12: Work journey transport mode in Taranaki compared to the rest of New Zealand⁶².

⁶¹ Statistics New Zealand: 2006 Census data - tables about the Taranaki Region.

⁶² New Zealand Transport Agency: Briefing notes – road safety issues.

Road safety

Road safety is an important aspect of the land transport system in Taranaki. There are a number of different "agencies/organisations" within Taranaki that work individually and jointly to develop, invent and promote road safety initiatives to help decrease the number of crashes in the Taranaki region. These agencies/organisations include: the New Zealand Police, New Zealand Transport Agency, three district councils (South Taranaki, Stratford and New Plymouth District Council's), Health Promotion Unit (Taranaki District Health Board), New Plymouth Injury Association, Accident Compensation Corporation (ACC), Automobile Association (AA), Road Transport Association, Taranaki Regional Council and Roadsafes Taranaki. These partners work collaboratively to agree on risks, identify objectives, develop plans and monitor/review progress. This joint approach recognises that the combined benefit of education, enforcement and engineering solutions are required to reduce crashes.

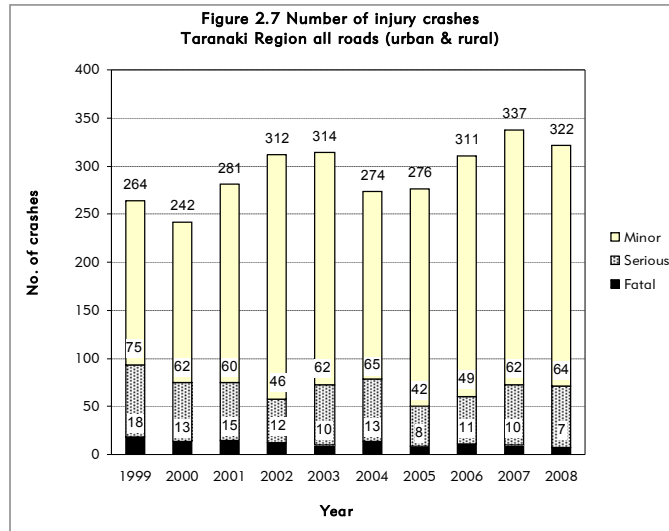


Figure 11: Number of fatal and serious injury crashes 1999 -2008

Roadsafe Taranaki is one of the mechanisms through which collaboration among agencies occurs on community based road safety programmes throughout Taranaki. Roadsafes Taranaki agrees on important community road safety initiatives for the region and develops programmes to implement these. A full time Road Safety Coordinator is employed to facilitate the work of the Group, to liaise with stakeholders and the community to identify problems and priorities, and help in developing practical road safety projects. The vision of Roadsafes Taranaki is to "eliminate deaths and injuries on Taranaki roads".

Figure 12 shows the trend in injury crashes on regional roads for the last 10 years⁶³. The following information is also an outline of the statistical facts associated with road safety in the region:

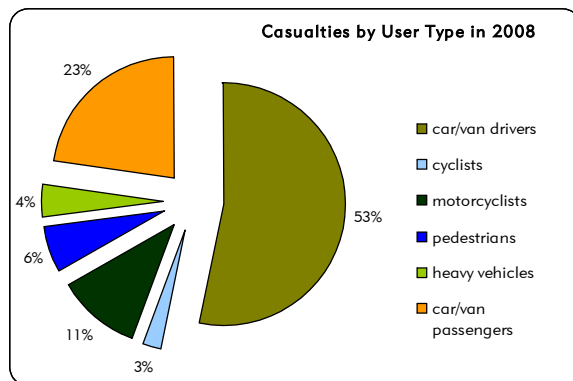


Figure 13: Taranaki's road casualties by type in 2008

- In 2008, 7 people lost their lives whilst driving in the Taranaki region, which is the lowest fatality rate in the previous 10 years. There were a total of 322 injury crashes and 640 non-injury crashes reported for the year 2008 by the New Zealand Police.
- Between 2004 - 2008 there was a similar trend in the New Plymouth and Stratford Districts for fatal and serious injury crashes. Within both districts there was an increasing trend in the total number of fatal and serious injury crashes, with 2005 being the lowest number reported since 1999. However, statistics for the South Taranaki District reveal a static trend in these types of crashes⁶⁴.
- Road safety casualties are predominantly car drivers or car passengers (Figure 13).
- The estimated social cost of crashes in the

Taranaki region in 2008 was a total of \$112.46 million, with an estimated \$51.16 million for local roads and \$61.29 million for state highways⁶⁵.

In 2008 the major road safety issues for Taranaki were⁶⁶:

- Loss of control at bends
- Intersections
- Alcohol
- Speed

This compares to the national issues of speed, alcohol, failure to give way and restraints.

Loss of Control at Bends

During the five year period (2004-2008) the total number of injury crashes due to loss of control at bends increased in both New Plymouth and Stratford with little change within South Taranaki, however the number of serious injury

⁶³ NZ Transport Agency, June 2009: Road Safety Report 2004 - 2008.

⁶⁴ NZ Transport Agency: Briefing notes: road safety issues 2008.

⁶⁵ NZ Transport Agency: Briefing notes: road safety issues 2008.

⁶⁶ NZ Transport Agency: Briefing notes: road safety issues 2008.

crashes decreased. The percentage of all injury crashes occurred due to loss of control at bends was 28% for New Plymouth, 40% for Stratford and 63% in South Taranaki. These crashes resulted in 28 deaths, 140 serious injuries and 576 minor injuries in the Taranaki region. There were a further 743 non-injury crashes reported involving loss of control at bends. Most crashes at bends involved a driver losing control of their vehicle and often running off the road then hitting a roadside object or colliding with another vehicle. The following table shows the main characteristics for loss of control at bend crashes⁶⁷.

Crash characteristics	Percentage of crashes (%)		
	New Plymouth	Stratford	South Taranaki
Single Vehicle	72	81	83
Alcohol (injury crashes)	24	19	30
Too fast for conditions (injury crashes)	39	23	40
Road factors	19	14	17
Poor handling (injury crashes)	36	35	42
Rural road	55	76	78
Wet road	40	38	39
Night time	48	40	47

Table 8: Loss of control at bends between 2004 - 2008

Intersections

The period 2004-2008 saw 44% of all injury crashes in the New Plymouth District occur at intersections. Within the Stratford District 26% of all injury crashes occurred at intersections showing the total number of injury crashes at intersections to be increasing, allowing for some annual fluctuation. The South Taranaki District's latest five year trends reveal the total number of injury crashes at intersections to be decreasing, with 25% of all injury crashes occurring at intersections. These crashes resulted in 15 deaths, 117 serious injuries and 685 minor injuries and a further 1473 non-injury crashes reported. The New Plymouth District accounted for the highest number of intersection crashes. The locations of intersections with the highest number of crashes for 2008 occurred at the SH3 and Lemon Street intersection in New Plymouth, the SH3 and Regan Street in the Stratford District, and in South Taranaki the Turuturu Road and Glover Road intersection. These intersections have also recorded relatively high crash rates throughout the 2004 to 2008 period.

Within the Taranaki region the majority of the crashes occurred at urban intersections with 72% and over half (54%) occurred on state highways. These crashes occurred predominantly due to failure to give way to a give way sign, followed by failure to give way to a stop sign, at traffic signals, and finally intersections without any traffic control⁶⁸.

Speed

Travelling too fast for conditions is one of the main contributing factors in road crashes in New Zealand and the

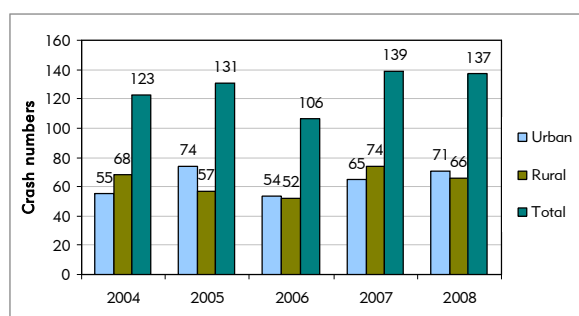


Figure 14: Speed related crashes 2004 - 2008

Taranaki region is no exception. It is a major road safety issue predominately in the New Plymouth and South Taranaki District's. In the New Plymouth District, speed too fast for conditions was a factor in 17% of all injury crashes from 2004-2008 and 24% in South Taranaki, which is higher than the average for similar authorities for both districts.

There were 264 injury and 372 non-injury speed related crashes reported during the period of 2004 to 2008 resulting in 20 deaths, 71 serious injuries and 302 minor injuries for the New Plymouth and South Taranaki District's combined. 58% of at fault drivers in speed-related injury crashes were between the ages of 15-24 and 78% of them were male drivers. Figure 14 illustrates speed-related crashes on rural

and urban roads for the period 2004 to 2008 in the Taranaki region. Rural roads are roads with a speed limit of 80km/h or more⁶⁹.

Alcohol

Alcohol affects the way people drive and statistically it is three times more likely for a driver over the legal limit to be involved in a crash than a sober driver. Between 2004 and 2008 the percentage of all injury crashes that were alcohol related was 12% for New Plymouth, 15% for Stratford and 20% in South Taranaki District. The alcohol related crashes reached 218 injuries (including 19 deaths, 68 serious injuries and 250 minor injuries) for the whole

⁶⁷ NZ Transport Agency: Briefing notes: road safety issues 2008.

⁶⁸ NZ Transport Agency: Briefing notes: road safety issues 2008.

⁶⁹ NZ Transport Agency: Briefing notes: road safety issues 2008.

Taranaki region. In the latest five year trend the total number of injury crashes relating to alcohol has increased in New Plymouth and Stratford, with a slight decrease in South Taranaki.

During 2008 alcohol-affected drivers also contributed to 34% of all fatal crashes and 15% of all injury crashes in New Zealand. Alcohol combined with speed was a factor in approximately 33% of the 218 alcohol related injury crashes in the Taranaki region. The most common at fault drivers for injury crashes were in the 15-29 year old age group⁷⁰.

Taranaki's roading network

Current status and use

The use of motor vehicles as a mode of transport has grown considerably over the last 60 years. As a result, greater demand has been placed on both the state highway (managed by NZ Transport Agency) and local road networks (managed by territorial authorities) throughout New Zealand.

	Stratford	South Taranaki	New Plymouth	Total
Rural (km)	541.9	1478.5	954.8	2975.2
Urban (km)	40.8	137.0	310.7	488.5
Special purpose roads	14.2	-	6.8	21.0
Total local roads	596.9	1615.5	1272.3	3484.7
State Highways				391.1
Total all roads				3875.8

Table 9: Taranaki's roading network statistics⁷¹

In total there are 3,876 kilometres of roads in Taranaki, of which 3,168 kilometres are sealed. The network is made up of 391 kilometres (10%) of state highways and 3,485 kilometres (90%) of local roads, of which 2,996 kilometres (77%) are local rural roads. There are 298 bridges on state highways (including one single-lane bridge at the Stratford cemetery on SH43) and 707 bridges on local roads, of which 432 are single-lane. This equates to Taranaki roads

having a bridge approximately every four kilometres⁷² and reflects the high density drainage network found in the region. Furthermore, there are 710 kilometres of paper roads in the New Plymouth District, 700 kilometres in Stratford and 631 kilometres in South Taranaki.

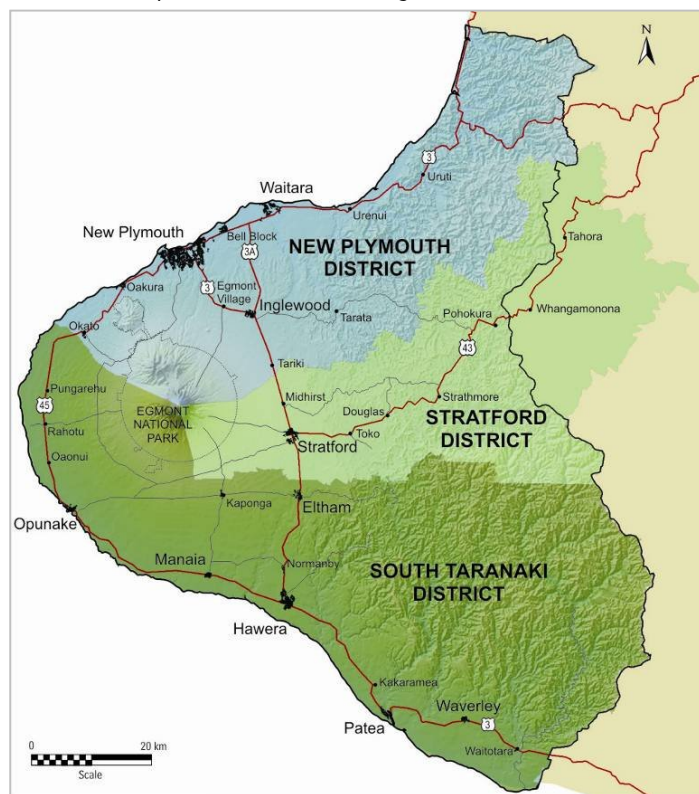


Figure 15: Taranaki's state highway network

Taranaki's extensive roading network provides vital access and communication links to and within the region. High quality roads and an appropriate network of roads are essential for the region's agricultural, petrochemical, forestry and tourism industries, and for maintaining access to widely scattered rural communities and a large number of individual households. This network has developed primarily in response to the needs of these groups, particularly primary producers.

As demonstrated by Figure 15, the main state highways in the region are as follows:

- State Highways 3 and 3A link the region with the main centres to the north and south.
- State Highway 43 which provides an important route to inland centres and the central North Island.
- State Highway 45 which connects coastal residents to the rest of the region.
- State Highway 44 which connects Port Taranaki to State Highway 3 in New

⁷⁰ NZ Transport Agency: Briefing notes: road safety issues 2008.

⁷¹ Land Transport New Zealand, 2009: Network statistics for the year ending 30 June 2008.

⁷² New Zealand Transport Agency, 2010: Wanganui Region AADT Traffic Counts.

Plymouth.

As the region's state highways are of strategic value for Taranaki, State Highway 3 is of particular significance. It is important to the viability of industries in Taranaki being able to compete in the northern North Island market and in overseas export markets, for regional tourism, and for access to other services and facilities in major centres outside Taranaki.

Table 10 demonstrates the average daily traffic volumes over a ten year period at several locations on the state highway network.

Location	SH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% incr. Over 10 yrs
Tongaporutu	3	1865	1880	1950	2016	2066	2118	2100	2140	2088	2148	15.2
Waitara Bypass	3	5840	5130	5690	5830	5650	5930	6070	5970	5590	4610	-21.1
Egmont Road (NP)	3	22820	23140	20980	21520	22410	22370	22460	23580	22750	24270	6.4
Coronation Ave (NP)	3	11960	12190	12790	13430	13220	13570	13090	13820	13200	14340	19.9
Rata Street (Inglewood)	3	10880	11130	11890	11620	11760	11980	10480	11500	10590	11080	0
Tariki	3	6810	7120	7440	7696	8086	8318	8210	8620	8510	8226	20.8
Ngaere	3	7080	6970	7480	7600	8000	8040	7860	8380	8120	8400	18.6
Hawera	3	8440	7340	7880	8070	8350	8440	8380	8960	8760	9310	10.3
Waitotara	3	3230	3280	3350	3436	3436	3462	3370	3380	3384	3423	6.0
Te Arei Road	3A	2410	2230	2250	2510	2740	2810	2660	2780	2770	3050	26.6
Toko	43	840	880	590	610	780	840	760	610	570	630	-25.0
Whangamomona	43	200	160	120	160	180	200	200	170	190	190	-5.0
Molesworth Street (NP)	44	-	-	-	13898	13170	13040	13060	13150	12150	12730	-8.4
Stoney River	45	1870	2310	2160	2020	2110	2250	2240	2050	2220	2160	15.5
Pihama	45	1310	1440	1060	1060	1110	1090	1080	1060	1100	1050	-19.8

Table 10: Average annual daily traffic volumes in Taranaki over a ten year period⁷³

The only traffic counts to show a decrease in volume between 2000 and 2009 were the Waitara Bypass (SH3), Toko (SH3), Whangamomona (SH43), Molesworth Street (NP – SH44) and Pihama (SH45).

Figure 16 illustrates the 2008 level and pattern of traffic volumes on the New Plymouth roading network. It demonstrates that traffic volumes on state highways in New Plymouth range up to 35,000 vehicles per day (vpd) on the Waiwhakaiho Bridge and elsewhere include:

- 14,000 – 16,000 vpd on Coronation Avenue on SH3 (south)
- 11,000 – 15,000 vpd on Molesworth Street and St Aubyn Street on SH44
- Up to 15,000 vpd and 13,000 vpd on Devon Road West and South Road respectively on SH45⁷⁴.

Figure 17 also demonstrates graphically the growth in traffic volumes at three specific locations on State Highway 3 – Tongaporutu (northern Taranaki), Tariki (central Taranaki) and Waitotara (southern Taranaki). All three sites demonstrate an increase in traffic volumes during this period, highlighting the increased pressure being placed on the main access routes into/out of Taranaki.

Roads will continue to be the dominant infrastructure for passenger and freight transport modes in the Taranaki region, particularly as the basis of the economy will remain orientated towards primary production which cannot, by character, be centralised. At this stage, the roading network is therefore the most effective way of servicing this region's widespread, low density population and agricultural economy.

⁷³ Land Transport New Zealand, 2009: Network statistics for the year ending 30 June 2008.

⁷⁴ New Plymouth District Council, August 2008: New Plymouth Strategic Study – Technical Report on Transport Issues and Options.

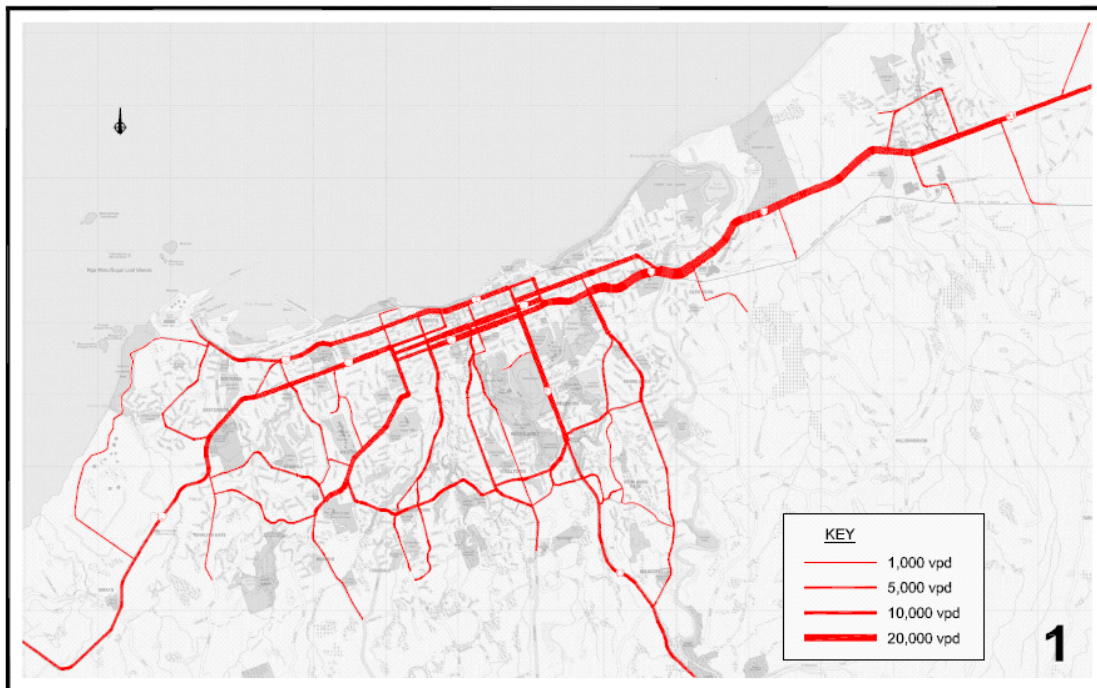


Figure 16: New Plymouth’s Average Daily Traffic volumes

However the focus of the transport network is likely to change over the next 5 – 10 years. Future land use changes will result in different road use patterns, for example:

- the future harvesting of forestry plantations will have an impact on the rural and state highway network
- an increasing number of subdivisions will have an impact on the adjoining state highways and/or major arterial routes which may lead to an increase in demand for more direct access
- increasing traffic from an expanding tourism sector may impact on road safety and network demand
- increased export/import movements to and from Port Taranaki could influence the type and amount of freight that is being moved through the region by both the road and rail networks.

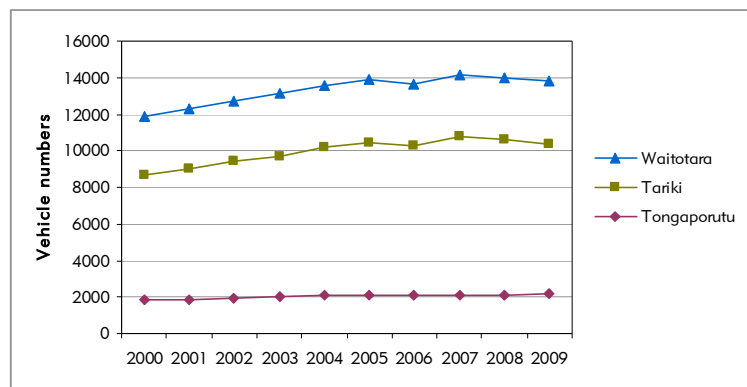


Figure 17: Average annual daily traffic volumes for three specific locations

State Highway safety assessment

A recent study initiated by the New Zealand Automobile Association and other government agencies has undertaken the country’s first ever national road assessment programme. This programme (called KiwiRAP) supports the vision and actions identified in the Government’s Safer Journeys: New Zealand’s Road Safety Strategy 2010 – 2020 document by trying to understand and measure the in-built safety of our state highway network. This will help focus safety engineering spend towards the areas of highest value and also raise public awareness about the different levels of safety on our roads.

With regard to Taranaki’s state highway system, the KiwiRAP Programme for 2010 has identified that 59% of the region’s network has major deficiencies (i.e. a 2-star rating), compared with the national average of 39%. This correspondingly means that Taranaki is below the national average with regard to state highway routes being allocated a ‘safe’ rating.

Rural roads

With regard to issues concerning rural roads in Taranaki, a Rural Roads Strategy [RRS] prepared in 2004 identified a number of significant issues for the region. An important part of this documents preparation was to investigate the

likely extent of forest plantations and the impacts of harvesting on the rural roading network and whether there was a strategic route or routes which could be identified.

Key issues identified in the RRS included road widths, poor geometry of curves, corners and cambers unsuitable for large heavy vehicles, steep shoulders (particularly on high country hill roads), road roughness, narrow bridges and poor approach geometry, overhanging vegetation, lack of integration between councils on maintenance policy and level of service, and lack of accurate information regarding forest plantations.

Since this document was prepared the New Plymouth and Stratford District Council's have prepared Roading Network Strategy's for Future Logging Operations. These Strategies recognise that future logging operations in Taranaki's eastern hill country could have a significant impact on local roading infrastructure. Some key statistics highlighted in these Strategies were as follows:

- Stratford District – the total roads affected by the future harvest and requiring improvement works are 53 kilometres of unsealed roads and 34 kilometres of sealed roads⁷⁵.
- New Plymouth District – the total roads affected by the future harvest and requiring improvement works are 28 kilometres of unsealed roads and 60 kilometres of sealed roads⁷⁶.

Heavy vehicles

With regard to heavy vehicle use in Taranaki, a significant proportion of freight in the region is carried by heavy vehicles using both the state highway and local roads network. In 2004 an Infrastructure Stocktake undertaken by the Ministry of Economic Development and Price Waterhouse Coopers identified that Taranaki had the fifth highest heavy vehicle intensity on roads at 104.2 thousand tonnes per kilometre. It was therefore recognised that freight density on Taranaki's roads is much higher than the majority of other rural regions in New Zealand, resulting in the development of greater adverse impacts on local communities.

Since then a New Zealand Transport Agency report entitled 'Central Region: Central Freight Report Analysis' has concluded that heavy vehicle transport demand is the greatest around the intersection of SH3 and the New Plymouth urban area. The intersection of SH3 and SH3A also experiences very high heavy traffic demand, however significantly more heavy vehicles use SH3 as opposed to SH3A to enter and exit the New Plymouth urban area from the Inglewood side. Heavy vehicle traffic is minor on SH43, as well as on SH45 (other than those areas close to either New Plymouth or Hawera).

Conversely, light vehicle movements are most significant around the intersection of SH3 with the New Plymouth urban area, as well as directly west on SH45 and east on SH3 of New Plymouth (i.e. near Bell Block) as these areas are both close to Taranaki's coast.

Table 11 demonstrates the growth in heavy vehicles between 2000 and 2009 and three key locations on State Highway 3.

Location	SH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% incr.
Tongaporutu	3	278	324	341	359	349	352	338	366	388	368	32.4
Tariki	3	518	691	710	731	792	831	862	964	914	886	71.0
Waitotara	3	320	431	444	478	543	485	499	502	513	490	53.1

Table 11: Average annual daily traffic volumes for heavy vehicles over a ten year period⁷⁷

The section of SH3 between Inglewood and Hawera is of great importance for the region. Table 12 demonstrates the 2008 average annual daily traffic volumes on the state highways within Taranaki and illustrates the heavy use and reliance on state highways in the region, especially SH3 and SH3A⁷⁸.

Modal breakdown for freight movement

With regard to the percent of freight tonnage carried per kilometre, Taranaki relies heavily on transport by road, although there is a relatively high use of rail transport. It appears from statistical data that road transport is utilised for short intra-regional trips, rail is used for medium length inter-regional trips and coastal shipping is used for long distance inter-regional trips (or to avoid large urban agglomerations). However, this may

State Highway	Sum of Absolute heavies (% of sum)	Sum of AADT (2008)
3	24016 (8.5%)	284191
43	365 (7.8%)	4680
44	562 (2.9%)	19464
45	2174 (4.6%)	47688
3A	435 (15.7%)	2770

Table 12: AADT traffic volumes on state highways vs heavy vehicle counts

⁷⁵ Stratford District Council, 2008: SDC Roading Network Study for Future Logging Operations.

⁷⁶ New Plymouth District Council, 2009: NPDC Roading Network Study for Future Logging Operations.

⁷⁷ Land Transport New Zealand, 2009: Network statistics for the year ending 30 June 2008.

⁷⁸ NZTA Central Region: Central Freight Report Analysis, First Report 2009.

also be a result of either the commodity mixtures carried into/out of the region and the relatively low time criticality of some commodities, or the relatively good infrastructure provision in the rail and maritime industries in the region.

Figure 18 demonstrates the modal breakdown for Taranaki, with the use of roads the predominant means of freight movement⁷⁹.

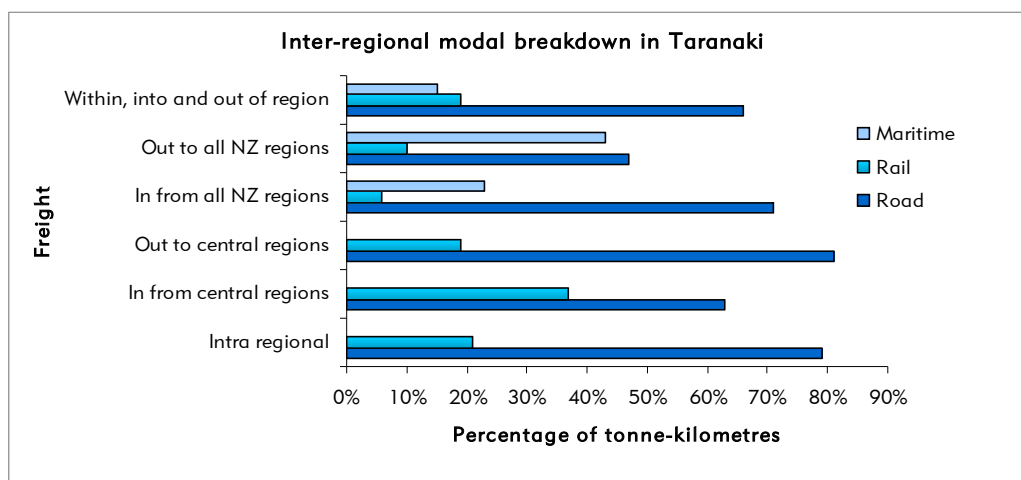


Figure 18: Inter-regional modal breakdown for freight movements in Taranaki

In this diagram 'central regions' mean the Taranaki, Manawatu-Whanganui, Hawkes Bay and Gisborne regions.

Projected traffic growth

New Plymouth District

In the New Plymouth District it is anticipated that the following factors will result in increased usage and expansion of the roading network:

- Road traffic to and from the airport/port is expected to increase further with anticipated business growth at these transportation hubs - as both of these hubs are served by SH3 there is a need to focus on the strong east-west linkages along this roading corridor.
- Other road traffic is expected to increase by 15-20% over the next 10 years, with growth in both the number of vehicles in the district and the level of vehicle use across the district (derived from an anticipated growth in tourism and leisure demand). This will place considerable pressure on parts of the roading network in the district.
- Demand for subdivision development is expected to continue and extend further in coastal, rural and peri-urban areas. The roading network will expand as new infrastructure will be required to provide access to new properties⁸⁰.

Even with aggressive demand management and modal shift the future traffic growth patterns (i.e. over 10 years) include:

- Residential: 1.5% per annum (upper limit)
- Central city: 3.0% per annum (upper limit)
- Eastern Corridor: 4.0% per annum (upper limit)⁸¹

It has been assumed that, in New Plymouth's central city area, current rates of traffic growth will continue for the next 10 years and then reduce, while Bell Block develops further as a commercial and industrial area. Traffic growth in the eastern corridor is expected to be higher than elsewhere in New Plymouth but then moderate as Bell Block develops.

The New Plymouth District Council's Strategic Transport Study developed four models to project future traffic growth patterns and the resulting impact on the local roading network. These models included:

1. Base and growth model.
2. 2008 Options: can do immediately.
3. 2011 Options: simple to implement i.e. no difficult land purchase or consenting issues.
4. 2046: requiring RMA, funding and land acquisition.

⁷⁹ NZTA Central Region: Central Freight Report Analysis, First Report 2009.

⁸⁰ New Plymouth District Council: Roading Asset Management Plan, June 2009.

⁸¹ New Plymouth District Council, August 2008: New Plymouth Strategic Study – Technical Report on Transport Issues and Options.

From this modeling exercise the major route security issue facing New Plymouth is the city's dependence on the Waiwhakaiho River Bridge. The current priority therefore is to widen the bridge to accommodate greater capacity, with further investigations required into a second river crossing.

Stratford District

The Stratford District has identified in their Rooding Activity Management Plan 2009 that the road capacity is adequate at present, with average usage rates below 500 vehicles per day. The existing rooding network can meet these needs and has the capacity to manage larger volumes. Congestion in the urban area is neither a problem now nor considered to be in the foreseeable future, however significant forestry plantations in the District are projected to impact on traffic patterns in the future.

Parking and traffic flows in the CBD areas are adequate, and a strategy for the development of the main business area is being produced which will address current and future demands. From time to time there have been requests to have heavy traffic diverted from Central Broadway by constructing a heavy traffic bypass. A report was prepared by consultants in 1994 on possible bypass options, however there did not appear to be a practicable solution. The Stratford District Council has recently reviewed this report and arrived at the same conclusion. They have also consulted the businesses situated on State Highway 3, who made it clear they did not favour a bypass.

South Taranaki District

The South Taranaki District has identified in their Ten Year Plan 2009 – 2019 that an increase in demand for new roads over the next 10 years will depend on the success of the Council's Urban Growth Strategy. The projected area for growth is anticipated to be limited to Hawera and Normanby. As much as 10 kilometres of roads could be formed in the next 10 years. However, it is expected that developers will construct the roads and then vest the assets with the Council.

Passenger transport services

An efficient public passenger transport service in Taranaki offers a number of potential environmental, financial and social benefits. Specifically, these benefits include:

- reductions in fuel consumption relative to individual needs such as cars
- reduction in traffic congestion
- reduction in degradation of local roads
- avoidance of additional roading
- reduction in exhaust emissions (passenger transport vehicles often burn 'cleaner' fuels such as CNG or diesel)
- improved mobility and accessibility for some transport disadvantaged people
- improved safety.

However, the combination of low population density and geographical isolation can make the provision of effective public transport services in the region difficult and uneconomical. Therefore, for a number of reasons (most often convenience), the use of private and/or company motor vehicles is the most favoured mode of travel in Taranaki.

Demographic, lifestyle and economic changes over the next 30 years may alter the demand profile for public transport services in the region. For example an ageing population, people choosing to live independently for longer, peak oil impacts, rising fuel costs, greater centralisation of health and other services may increase the demand for efficient passenger transport services during this 30 year timeframe.

The Taranaki Regional Council is the organisation responsible for planning for and contracting out or subsidizing public transport services in the region. A 'public transport service' can be described as a service that provides for the carriage of passengers for hire or reward by means of a large passenger service vehicle; a small passenger service vehicle; a ferry; a hovercraft; a rail vehicle; or any other mode of transport (other than air transport) that runs to a schedule and is available to the public generally. It does not include:

- a taxi service; a dial-a-driver service; a shuttle service; an ambulance service; a private hire service
- a service that is: contracted or funded by the Ministry of Education; carrying passengers that is operated to transport all those passengers to a predetermined event (i.e. a charter service); operated primarily for the purpose of providing a tourism experience; carrying passengers that is not available to the public generally.

The Council's involvement in public transport service provision is therefore limited to the provision of: contracted bus services in the New Plymouth, Bell Block, Waitara and Oakura urban areas; contracted inter-town bus services in the smaller rural areas; and subsidies for users of the Total Mobility Scheme in several urban areas (as directed by the Regional Public Transport Plan for Taranaki which is to be read in conjunction with the Regional Land Transport Strategy for Taranaki).

Urban bus services

The New Plymouth District is the only district in the region that has an urban public transport service, operating timetabled services for a number of urban routes to the New Plymouth suburbs, as well as Bell Block, Oakura and

Waitara. These services provide subsidised travel for the following users: children, tertiary students, beneficiaries, elderly and people with disabilities due to their qualification as the 'transport disadvantaged'. It also provides an choice to alternative private motor cars for other uses.

Where the Council previously operated a Concessionary Fare Scheme arrangement, they now operate a contracted urban public transport service as of 1 July 2008. This service provides comprehensive scheduled weekday public bus services in New Plymouth, Bell Block, Waitara and Oakura. Limited services operate in New Plymouth and to Bell Block on Saturdays. Funds for this service are received in part from a targeted rate on the New Plymouth District and in part from the New Zealand Transport Agency.

At the time of writing this report, improvements to the New Plymouth urban services were planned which were aimed at bringing this public transport system into line with those in similar-sized cities elsewhere. The improvements include additional capacity, electronic 'smartcard' ticketing across the entire network, new orbital services giving students direct access to most schools in New Plymouth, and an increase in peak-time routes. These revised services will be operated for just over a two year review period, after which they will be assessed to ensure the service is delivering value for money. The proposed improvements are set out in Table 13 below:

Key features	Current bus service	Proposed improvements
Number of bus routes (peak times)	4 (+ five <i>ad hoc</i> school services)	9 (+ orbiter services – 4 buses)
Number of bus routes (off peak)	4	5
Orbiter service linking schools	0	1 route (4 buses)
Bus coverage	Covers large parts of New Plymouth, excluding The Valley, Glen Avon, Whalers Gate & Ferndale	Covers the whole of New Plymouth (including The Valley, Whalers Gate, & Ferndale)
Length of time to travel bus route	40 - 45 minutes	30 – 35 minutes (peak)
Waiting times for next bus	Max 70 minutes (mornings) to 90 minutes (afternoons)	Max 40 minutes (peak), 70 minutes (off peak)
Capacity	Approx 380 seats/day	Approx 500 seats/day
Saturday services	Yes	Yes (will include The Valley)
Smartcard ticketing	On 4 buses	On all buses

Table 13: Proposed improvements for the New Plymouth urban public transport services

Other inter-town bus services

Several other contracted inter-town public transport services provide links between rural centres Taranaki. These include the following once-a-week return bus services:

- Under the South Link banner:
 - Waverley/Patea – Hawera
 - Hawera - Manaia
 - Opunake – Hawera (via Kaponga and Eltham)
 - Opunake – New Plymouth
- New Plymouth – Inglewood
The Hawera - Manaia service commenced operating December 2009 on a 24 month trial.

A number of companies also provide regular inter-regional services to other centres throughout New Zealand (including to and from Wellington via Palmerston North and Wanganui, Hamilton and Auckland). However these services are not subsidised in any way by the Taranaki Regional Council or the New Zealand Transport Agency. School bus services (MoE and commercial services) also operate throughout the region in locations where no alternative scheduled services are available.

SuperGold Card Scheme

As part of the Government's initiative to promote public transport, a nationally funded scheme known as the SuperGold Card Scheme was introduced from 1 October 2008. This Scheme allows all holders of a SuperGold Card (i.e. those who are aged 65 years or over, and those aged under 65 years receiving New Zealand Superannuation or the Veterans pension) to travel for free on scheduled off-peak buses, trains and harbour ferries. The Taranaki Regional Council introduced the Scheme throughout the region's bus services on 1 November 2008.

Total Mobility Scheme

To assist those with disabilities, a nationwide Total Mobility [TM] Scheme was established and is run jointly by the Taranaki Regional Council and its contracted Total Mobility Coordinator, in conjunction with taxi operators. The TM Scheme is a nation-wide reduced taxi fare scheme for people with an impairment that may prevent them from using public transport in a safe and dignified manner. The Scheme provides a 50% subsidy on taxi fares.

As the TM Scheme is reliant on the availability of taxis, the Scheme only operates within the urban areas of New Plymouth (including Bell Block), Waitara, Stratford and Hawera. Those who join the scheme are issued with voucher books, with a voucher being presented to the taxi driver for each trip made. Currently a maximum subsidy of \$10 (ie, 50% of a \$20 fare) applies to each trip.

In 2008/2009 there were a total of 79,099 Total Mobility passenger trips undertaken, a decrease of 9.8% over the previous year. This is the second year in a row the number of trips has decreased, with improved administration systems contributing to this decline. At the conclusion of the 2008/2009 year the TM Scheme had a client base of approximately 1,932, which was an increase of 16.4% in client numbers from the previous year's total of 1,660. Of this total, approximately 1,315 individuals were affiliated to the Disabled Persons Assembly (DPA) and 617 to other disability agencies. A total of five taxi organizations continue to participate in the Total Mobility Scheme: New Plymouth Taxis Ltd, Energy City Cabs, Egmont City Cabs, Stratford Taxis and Hawera Taxis Ltd.

The Total Mobility Scheme is a nationwide scheme with the New Zealand Transport Agency continuing to oversee how the Scheme is being operated. The Agency released a Guide for Local Authorities in July 2008 as means of achieving greater consistency in the application of the Scheme's rules. The Taranaki Regional Council has therefore made improvements in the management of the Scheme locally by adopting the Guide's procedures⁸².

Walking and cycling networks

Cycling

As a transport mode, cycling has many benefits to offer when compared with motor vehicles. These include low capital and running costs, greater access, increased potential health, minimal degradation of road surfaces, fewer emissions and less congestion. It is recognised that cycling in Taranaki occurs across a broad range of activities including: travelling to and from school, commuting to work, recreation and leisure, competitive sport and tourism. However, historically cycling in Taranaki has not received as much attention as other transport modes in the region.

On the local roads and state highways, cycling is often perceived as differing from and therefore secondary to, other vehicular traffic. However, as noted in Table 7, people are continuing to cycle to work in Taranaki. In the 2006 census a total of 999 people stated that they cycled to work, the majority of who live in the New Plymouth urban area. In addition, many hundreds of students cycle to schools and other educational institutions in the region. In Taranaki (as in most of New Zealand) the majority of cyclists tend to be young road users and predominantly in the 10-14 year age bracket.

Cycling can be classified into the following four groups:

1. Cycling within major urban areas (e.g. New Plymouth)
2. Cycling within districts and between towns or smaller urban environments
3. Longer distance cycling between regions
4. Recreational off-road cycling or mountain biking (including special cycle events)

Nationally cycling is a popular form of travel, with the following statistics worth noting⁸³:

- 71% of households with children have one or more working bicycles.
- We spend 1% of our time cycling on our roads.
- We most often cycle for 20-30 minutes a day and travel about 1-3 kilometres.
- For children under 18 years there has been a reduction in both the time spent cycling and the distance cycled (refer tables 14 & 15).
- The average time cycled per week by those aged 5-12 years has decreased from 28 minutes in 1989/90 to 7 in 2006-09. The average distance cycled has also decreased from 2.8 km in 1989/90 to 0.9 km in 2006-09.
- For those aged 13-17, the average time spent cycling per week has decreased from 52 minutes in 1989/90 to 11 minutes in 2006-09. The distance cycled per week has also decreased substantially from 7.9km in 1989/90 to just 2.1km in 2006-09. There has been no such reduction for adults.
- Children 5-17 years old are most likely to be cycling to and from school or some form of educational activity, while adults are most likely to be cycling for recreation.

⁸² Taranaki Regional Council: Regional Land Transport Planning and Passenger Transport Annual Report 2008/2009.

⁸³ Ministry of Transport: How New Zealanders Travel – trends in New Zealand household travel 1989 - 2008.

Age group	Minutes cycling per week					
	1989/90	1997/98	2003-06	2004-07	2005-08	2006-09
5 – 12	28	15	11	9	8	7
13 – 17	52	31	13	12	12	11
18+	8	5	5	6	7	6
Total 5 or over	15	9	7	7	7	7

Table 14: Trends in minutes spent cycling each week per person by age group

Age group	Kms cycled per week					
	1989/90	1997/98	2003-06	2004-07	2005-08	2006-09
5 – 12	2.8	2.0	1.2	0.9	0.9	0.9
13 – 17	7.9	4.8	2.2	2.1	1.8	2.1
18+	1.4	1.2	1.3	1.3	1.5	1.4
Total 5 or over	2.2	1.6	1.3	1.3	1.5	1.4

Table 15: Trends in time spent cycling per week and distance cycled per week by age group

Figure 19 demonstrates the percentage of New Zealand households with bicycles between 2006 and 2009⁸⁴.

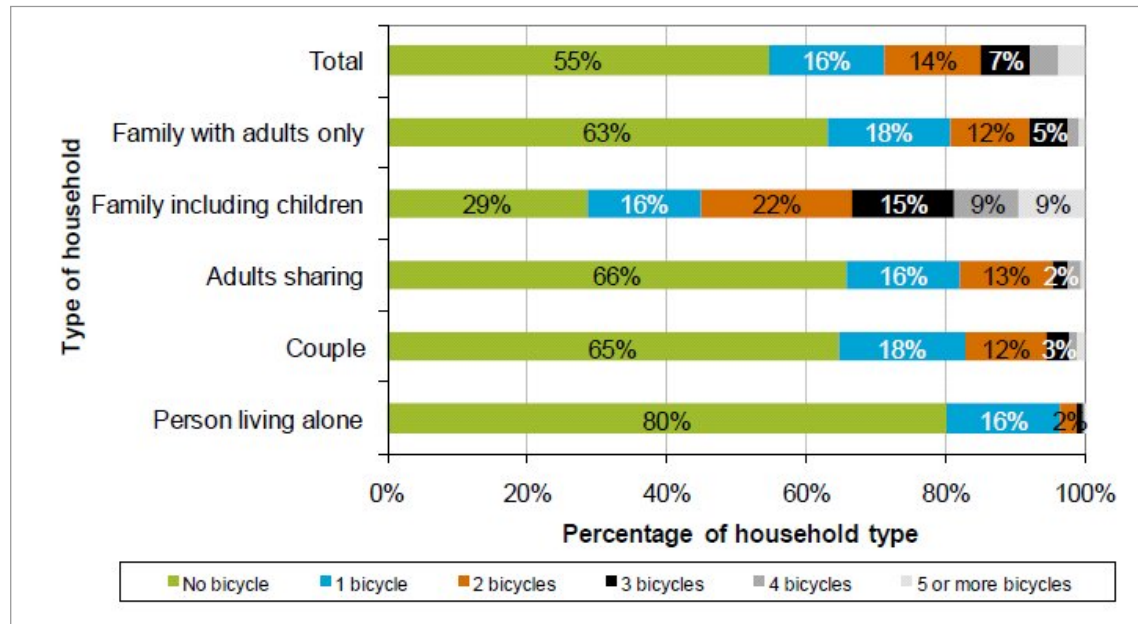


Figure 19: Percentage of households with bicycles between 2006 - 2009

Due to a greater awareness and understanding of the benefits of cycling, the provision of more cycle routes in urban areas is increasing. Furthermore, the need for existing cycle routes to be recognised and future routes to be adequately addressed in the planning and design phases of roading projects is becoming more evident. Basic roading requirements for cyclists also need to be identified and include such matters as adequate carriageway, road surface quality, continuity, cleanliness, road lighting and a minimum of obstacles. In some circumstances in the region, it is impractical to provide separate cycleways, particularly in developed areas where there is little available land. However, on routes used or likely to be used by cyclists, the establishment of these facilities requires serious consideration.

The increasing number of independent cycle tours occurring throughout the rural areas of New Zealand (including Taranaki) is also evident. Consequently, there has been a gradual increase in the number of cyclists using the arterial routes of Taranaki's roading network. It is acknowledged that these people are currently not well catered for and that this is an issue which needs further investigation.

Regionally the needs and priorities for walking and cycling activities throughout Taranaki have been addressed through the development of a Regional Walkways and Cycleways Strategy which:

⁸⁴ Ministry of Transport: Cycling for transport: Ongoing New Zealand Household Travel Survey 2006 – 2009.

- promotes the economic, social, environmental, recreational, health, tourism and transport benefits of walking and cycling
- identifies current and possible future walkways and cycleways as part of an integrated, region-wide network connecting Taranaki's natural environment and linking with other walking, cycling and roading infrastructure and population centres.

New Plymouth (as the major urban area in Taranaki) has an existing range of facilities for cyclists. There are approximately 40km of on-road cycle lanes and approximate 15km of off-road cycle tracks, the majority of the latter being informally shared with pedestrian routes⁸⁵. The New Plymouth District's Cycle Strategy 2007 recognises that:

"Cycling has the potential to make a significant contribution to an integrated and sustainable transport system".

The 2007 Cycle Strategy has been developed to build on the previous work done to implement the 2004 strategy. The 2007 document provides a plan to achieve the vision to make New Plymouth "safe, attractive and accessible for cycling, for commuting and for recreational journeys alike". A policy framework for cycling in the district is set out and describes the current position regarding cycling in New Plymouth as a benchmark against which progress can be measured. It also builds on the policies of local plans to provide more specific guidance and targets for New Plymouth and sets out priorities for works and initiatives to be undertaken.

Walking

Walking is often the quickest, most cost-effective and efficient method of undertaking a short trip, either to work or for recreational/social purposes. However, despite these benefits, walking appears to have been in decline in Taranaki as a 'journey to work mode' over the last ten years. As demonstrated in Table 7, 5.8% of journeys to work were made by either walking or jogging in the 2006 census, compared to 6.6% in 2001 and 7.1% in 1997. However, the New Plymouth District has had a slight increase in the number of people walking to work from 1,644 in 2001 to 1,809 in 2006.

To help reverse this decline there needs to be an increase in awareness and promotion of the benefits of walking and cycling by various organisations involved in promoting public health benefits, as well as the provision of attractive and convenient walking and cycling infrastructure (e.g. by district councils, Taranaki District Health Board and Sport Taranaki), providing an appropriate alternative means of travel to the private motor vehicle. As walking makes up at least one part of every 'trip', it is important that walking is recognised as a vital means of meeting the land transport needs of the Taranaki region. In providing for pedestrians, it is therefore important to recognise the diversity of people who walk and the fact that most pedestrian trips are in urban environments for distances of less than one kilometre.

While most urban streets cater for pedestrians to some extent by having footpaths, dedicated walkways are less common and are often aimed at the leisure or recreational user rather than the traveler. Walkways (through good urban design and planning) have the potential to make walking an attractive option, which in turn has the advantage of reducing vehicular traffic in the region. An example of this has been the Coastal Walkway in New Plymouth, which has far exceeded expectations in terms of use by both commuters and recreational pedestrians/cyclists. The Walkway has become a focal point for people of all ages to walk, cycling, skate or use mobility scooters. It is enjoyed by over 1,000 people each day, with growth in the last two years exceeding 20% per annum.

Nationally walking is recognised as another form of transport which we use for travel and recreation, with the following statistics worth noting⁸⁶:

- Walking makes up 13% of the total time spent travelling and 17% of the number of trip legs.
- On average women spend more time walking more than men
- About 25% of New Zealanders report walking on our roads and/or footpaths.
- People usually walk for 10-20 minutes a day, with woman averaging about an hour/person/week and men averaging a little over 50 minutes/person/week.
- Overall we are walking less than we did in 1989/90 and 1997/98.
- On an average surveyed day, 74% of people reported no walking (walking on private property (e.g. farms) or tramping is not included).
- Children aged 5-14 years now spend about an hour walking/week, compared to an hour and a half 20 years ago.
- People with no driver license spend far more time walking per person per week than those with one (for all age groups).

Regionally, the Taranaki 2007 Regional Walkways and Cycleways Strategy advocates for the increased uptake of walking as an alternative mode of transport in Taranaki, with the vision of providing greater transport choice and making the region more enjoyable and easier to walk in. The effective integration with other modes of transport such

⁸⁵ New Plymouth District Council, 2007: Cycle Strategy.

⁸⁶ Ministry of Transport: Cycling for transport: Ongoing New Zealand Household Travel Survey 2006 – 2009.

as cycling and public passenger transport services is also an important linkage which needs to be taken into consideration⁸⁷.

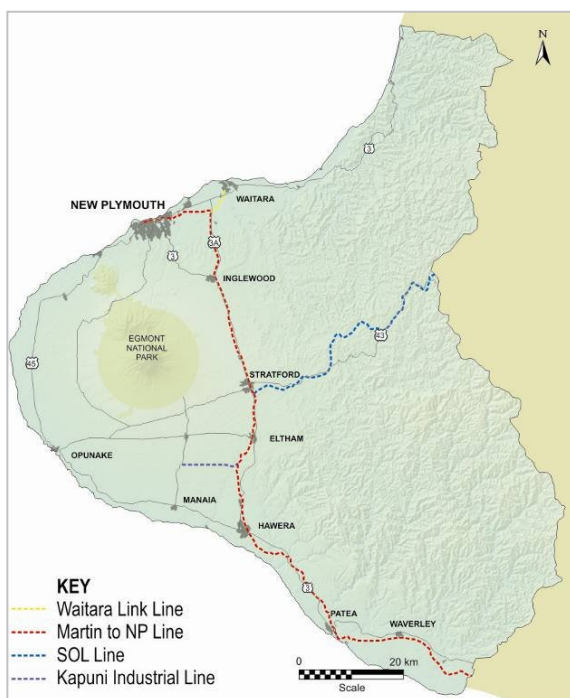


Figure 19: Taranaki's rail network

Taranaki's rail network

New Zealand's total railway network extends over 4,205 kilometres of main line track, of which approximately 214 kilometres are within Taranaki.

Rail access into the region comes from both the north and the south (refer to Figure 19).

- Access north is between Stratford and Okahukura (just north of Taumarunui), at which point the North Island Main Trunk line is used to access Hamilton. From Hamilton, Auckland and Tauranga may be accessed by the North Island Main Trunk and East Coast Main Trunk lines. This is referred to as the Stratford to Okahukura Line [SOL].
- Access south is between Stratford and Marton, after which point the Main Trunk Line is used to access Palmerston North. From Palmerston North, Wellington, Napier, Gisborne and the Wairarapa may be accessed by the North Island Main Trunk and Lower North Island lines. This is referred to as the Marton to New Plymouth Line [MNPL].

KiwiRail has recently mothballed (i.e. retained for possible re-opening for up to two years) the SOL Line following a derailment at its northern end and consequential damage caused to 8 kilometres of railway sleepers. Rail freight previously moved using this Line is therefore now being

moved to/from Taranaki via Marton and the North Island Main Trunk Line.

Taranaki also has a privately owned heritage railway – the Waitara Railway Preservation Society Inc. purchased the 7½ kilometre rail link from Lepperton Junction to the Waitara Township in May 2001. The Waitara link line was the first railway system in Taranaki and has been operating as a tourist attraction since October 2003. Taranaki Pioneer Village (Stratford) and Tawhiti Bush (Hawera) also have licensed railway lines operating. Licensed industrial railway lines throughout Taranaki, include those for Fonterra (at Whareroa and Kapuni) and Ballance Agri-Nutrients (Kapuni). There are also industrial rail sidings at Ravensdown, Shell Todd Oil Services, Natural Gas Corporation [NGC] and Port Taranaki.

Current use

In Taranaki rail freight is transported on container trains (containerised freight), pack trains (consolidated general freight), bulk trains (coal, logs and milk) and block trains (steel, aggregates and fertiliser). The main types of freight being moved via rail continue to be meat and dairy products, fertiliser, wood chips and bulk milk. The recent bypass of the Kai Iwi Tunnel just north of Marton and the recent refurbishment of the Manawatu Gorge section of railway now allows high cube containers to be carried from Port Taranaki through to the Port of Napier.

Prior to the derailment in November 2009, one return train a day used the SOL to move dairy products, empty containers and general goods between New Plymouth and the northern section of the North Island Main Trunk.

There are currently no scheduled passenger or commuter rail services operating within the Taranaki region. However, certain special events (for example the Whangamomona Republic Day) have seen the movement of passengers via the rail network both within and to/from the region. Despite environmental and social advantages of rail passenger services in comparison to road, in many situations rail struggles to be financially competitive. The demand and cost efficiencies of running a rail passenger transport service in the Taranaki are therefore not deemed to be a viable option at this time.

With regard to the Marton to New Plymouth Line, current use statistics are as follows⁸⁸:

Whareroa - New Plymouth

Two return General Freight services every day, five days per week.

⁸⁷ Taranaki Regional Council, 2007: Regional Walkways and Cycleways Strategy for Taranaki.

⁸⁸ Pers. Comm.: Kevin Ramshaw, KiwiRail 2010.

Wanganui - Whareroa

- 4 Up loaded Milk Services daily (runs 7 Days a week during the Milk Season)
- 1 Up mixed Milk and Freight Service daily (runs 7 days a week during the Milk Season)
- 2 Up General Freight daily (5 days a week)

- 5 Down Mixed Freight and empty Milk Services daily (runs 7 Days a week during the Milk Season)
- 2 Down General Freight daily (5 days a week)

Sea links

Port Taranaki, also known as the West Gate, is the only deep water west coast port in New Zealand. As the Taranaki region is New Zealand's only oil and gas producing province this industry provides continuous utilization and profitability for the port. The Port is operated by Port Taranaki Ltd and currently offers nine fully serviced berths for a wide variety of cargoes and vessels. The maximum port draft is 12.5 metres, and for vessels in excess of 10 metres, a real time draft optimization system (Dynamic Under Keel Clearance (DUKC)) must be used⁸⁹.

Figure 20 demonstrates the layout of Port Taranaki and its location within the urban limits of New Plymouth.

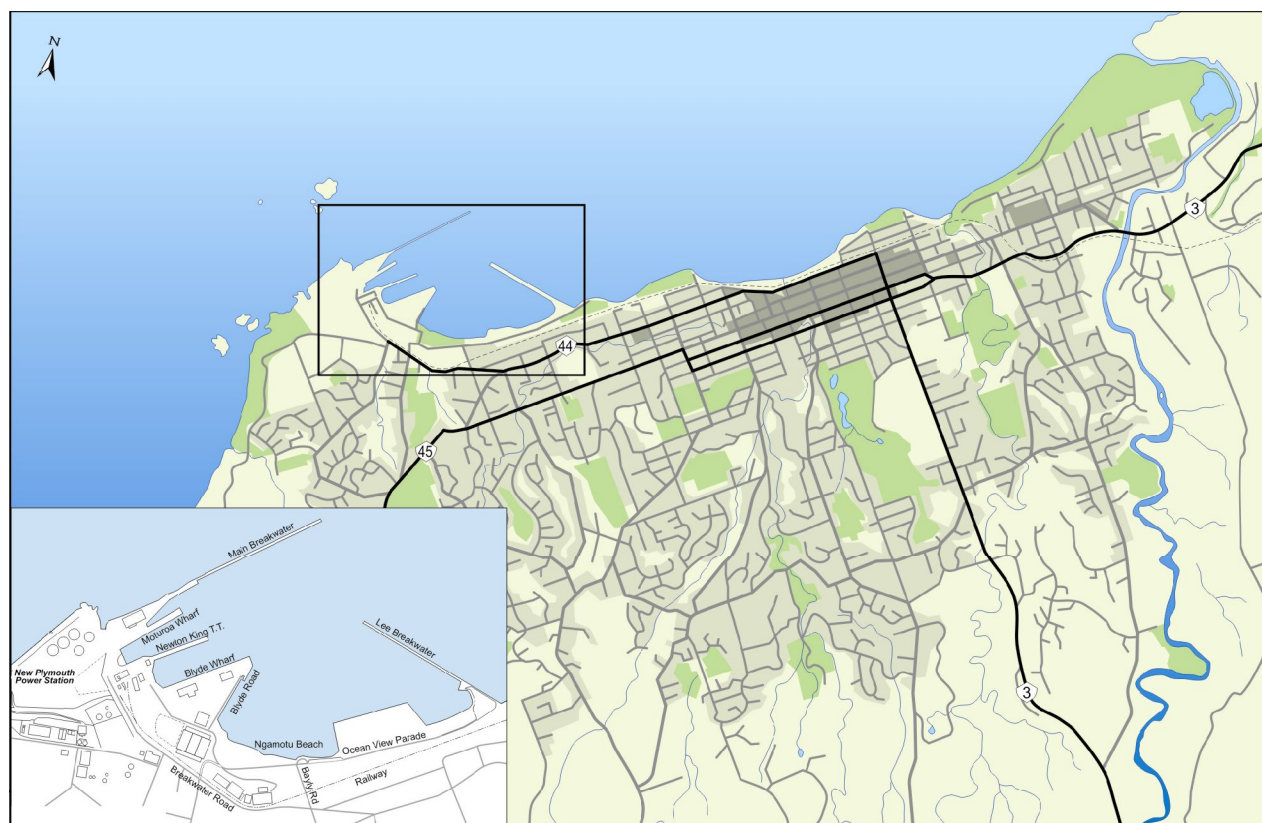


Figure 20: Location and layout of Port Taranaki

There are four main wharves at the Taranaki Port, including:

- Moutoa wharf – is generally used for dry bulk cargoes. It is also serviced by road and rail, and features an 18,000 tonne dry storage facility.
- Newton King Tanker Terminal – handles a wide range of petrochemical products and bulk liquids including crude oils, liquefied petroleum gas and methanol. These products are piped from onshore and offshore sites throughout the region before being pumped to dedicated load-out facilities. Bulk Liquids such as diesel and petrol are imported through the facility.
- Blyde Terminal – an integrated cargo handling facility based around a terminal operation on the Blyde complex. It caters for Port Taranaki's growing container trade as well as for general and refrigerated conventionally handled cargoes. It is the Port's newest development, and it reflects growth the Port is enjoying as a major point of export for New Zealand dairy products.
- Main breakwater – while the primary purpose of the main breakwater is to protect the harbour from the open sea, it is also a fully operational facility. The berth is multipurpose and primarily used for coastal bulk traders and

⁸⁹ Port Taranaki Website Information 2009. www.porttaranaki.co.nz

offshore support for Taranaki's oil and gas operations. A special feature of this berth is that it has heavy lift capacity.

The agricultural hinterland surrounding New Plymouth provides demand for Port Taranaki's facilities through the handling of fertilisers and the export of agricultural and dairy produce. Frequency of service and the efficiency of landside transport networks to and from the Port continue to be a key issue, as illustrated by Fonterra's recent decision to use long distance rail services which are linked to large international ports rather than using regional hub ports.

In terms of exports, Port Taranaki is currently handling 13% of New Zealand's exports by volume and 8% by value. A report completed in 2007⁹⁰ suggested that the total economic impact of Port Taranaki is a contribution of \$604 million to output, \$290 million to GDP, and the employment of 1,485 Full Time Equivalents. The vast majority of this impact is from port-related activity rather than the Port's own operations. However, considering this in relation to total economic activity in the Taranaki region, the Port directly contributes 4.6% of regional GDP and 2.0% of regional employment. Adding indirect and induced effects the contribution of the port increases to 6.6% of regional GDP and 3.3% of regional employment⁹¹.

The main commodity groups imported into the port are residues and waste from the food industries (prepared animal fodder). In terms of volume, this commodity group is twice the size of any other commodity group imported into the port. The importance of this commodity group has also increased dramatically in the last five years. The importing of fertilisers, cereals, salt, sulphur, lime and cement (as well as international imports of petroleum products) also places significant demand on port infrastructure.

The main commodity group exported out of the port is mineral fuels, mineral oils and products, which is nearly 18 times more significant (in terms of gross weight handled) than any other export. This importance has increased significantly in the last five years. Other significant exports include organic chemicals (hydrocarbons and hydrocarbon derivatives⁹²) and dairy produce⁹³.

In 2008/09 the total trade volume of the Port was 3.52 million freight tonnes, with the following trading environment occurring during the year⁹⁴:

- Recommissioning of methanol production assets offsetting a downturn in crude oil shipped
- Increase in bulk liquid volumes shipped from 2.24 million tonnes in 2008 to 2.44 in 2009
- LPG movements were down 20% on the previous year
- Methanol was up 71% from previous year
- Petrol and Fuel Oil was down 19%
- Bitumen was down 53%

Road and rail transport have direct access to the Port. Over the year the Port has 1 train/day arrive. By road it is estimated that 150 trucks/week enter the Port in the low season and 250 in the high season.

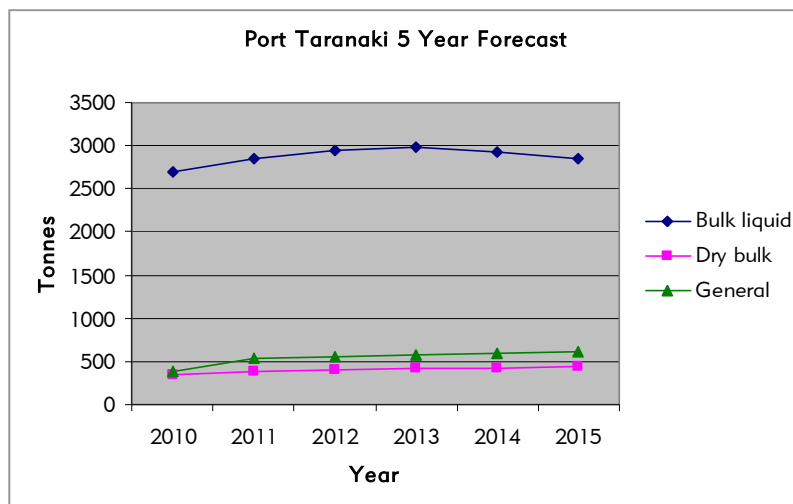


Figure 21: Port Taranaki's 5 year forecast (2010 – 2015)

Figure 21 demonstrates projected cargo movements at Port Taranaki over the next five years. These are recognised as conservative statistics, but nonetheless demonstrate the anticipated increase in bulk dry products over this period.

These cargo types can be defined as:

- Bulk liquid products: includes bitumen, liquid petroleum gas and petrol/fuel oils .
- Dry bulk products: includes cement, fertilisers, coal, logs and grain.
- Containers: includes movements of butter and cheese, meat, milk products and other.⁹⁵

⁹⁰ BERL, 2007: Economic Impact of Port Taranaki, prepared for Port Taranaki, June 2007.

⁹¹ NZTA Central Region: Central Region Freight Analysis, Final Report 2009.

⁹² The predominant use of hydrocarbons is as a combustible fuel source. In their solid form, hydrocarbons take the form of asphalt.

⁹³ NZTA Central Region: Central Freight Report Analysis, Final Report 2009.

⁹⁴ Port Taranaki: Annual Report 2009.

It is anticipated that dry Bulk volumes will stay level if no new opportunities arise.

Future opportunities at Port Taranaki include the following:

- The introduction of a roro (roll-on/roll-off) container and truck service between New Plymouth and Nelson. This could include a short extension of SH 44 (i.e. at the Port end of this state highway) to connect the Port with any new coastal services.
- An express Trans-Tasman service linking Australia with the West Coast of New Zealand.

It is important to note that this document is a land transport strategy and therefore does not include direction or provisions for sea transportation in the Taranaki region. However, the Strategy does recognise the importance of Port Taranaki for its transportation links (both domestic and international) and the role that it plays within Taranaki's wider transportation network.

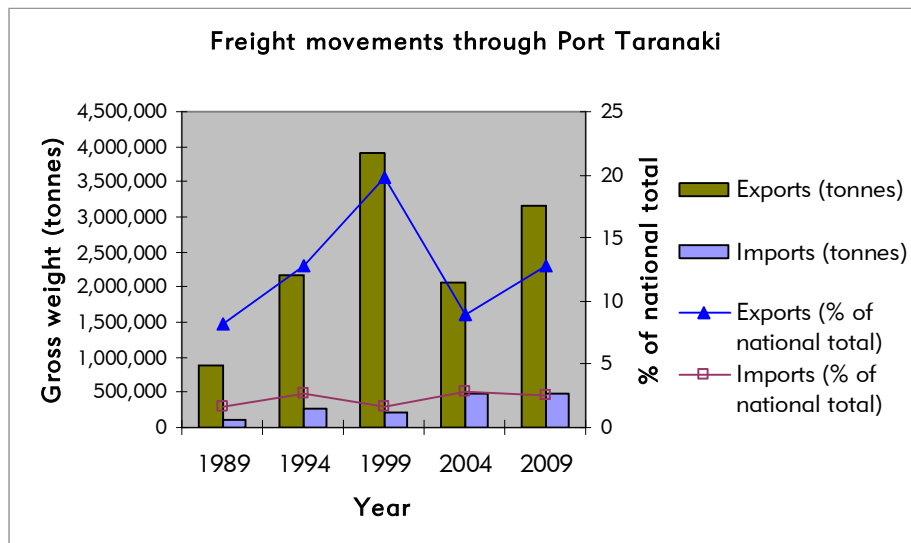


Figure 22: Import and export freight movements through Port Taranaki

Figure 22 outlines the total tonnage of import and export freight movements through Port Taranaki between 1989 and 2009.

Air links

The New Plymouth Airport is the only fully commercial air freight and passenger airport in Taranaki. It is operated as a 50:50 joint venture between the New Plymouth District Council and the Crown, with the predominant air craft servicing New Plymouth being a Bombardier Q300 with a seating capacity of up to fifty. The airline Air Nelson flies in smaller aircrafts with a seating capacity of 19 upwards.

The New Plymouth Airport services 26 flight movements a day, averaging a loading of 68%. This will equate to around 260,000 passengers for 2009, down from 298,000 in 2008. Despite this decrease, passenger numbers and aircraft movements are well ahead of the master plan predictions that were completed by the New Plymouth District Council in 2003. There has been recognised progress made over the last three years with the New Plymouth Airport being awarded the Regional Airport of the Year for 2009. It is also anticipated that passenger traffic will increase at the rate of 7% per annum in future years.

Passenger numbers and the total movements of aircrafts are shown in Table 14.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	% incr. over 8 yrs
Passenger numbers	158950	167450	170750	200650	224500	229050	249973	278738	293935	84.9
IFR Movements ⁹⁶	10587	10911	10872	11798	12380	11852	10915	12396	10104	-4.6
Total movements	29249	25402	27638	30412	31538	33020	32191	40690	46508	59.0

Table 14: New Plymouth Airport's passenger number and total movement statistics 2000 - 2008⁹⁷

Other airfields in the region that are large enough to accommodate twin engine cargo planes include those at Hawera and Stratford. A number of private airstrips throughout Taranaki also provide access for top dressing aircraft.

⁹⁵ Pers. Comm.: John Ireland, Port Taranaki 2010.

⁹⁶ IFR = Instrument Flight Rules. The aircraft approached New Plymouth Airport using instruments.

⁹⁷ Pers. Comm.: Kevin Hill, New Plymouth District Council 2009.

As with sea linkages, aircraft movements are not categorized specifically as 'land transport' modes in the Regional Land Transport Strategy. However, it is becoming increasingly important to note the impact increased aircraft movements, and hence increased road traffic to and from the airport, have on Taranaki's transportation network.

East-West Transport Corridor

An East-West Transport Corridor idea is a concept driven out of recognition that there is a critical and essential route linking the main production regions of the North Island with the valuable Australian markets. Such a link would involve the fast, effective and efficient transport of product direct to (or from) and through Port Taranaki Trans-Tasman, to some overseas destinations and incidentally to domestic destinations north and south.

This transport proposal arose from a consideration of the following geographical facts:

- The main food production regions lie east-west across the central North Island.
- The main, effective transport routes run north-south up and down New Zealand.
- Port Taranaki is geographically closest to the main export markets to the west.
- There is a recognisable potential for more effective intermodal transfer from land to sea and vice versa at New Plymouth rather than other main cities and ports.

An investigation undertaken by Venture Taranaki (with the assistance of Opus and BERL consultancies) in 2009 has identified that the future upgrading of road and rail access to Taranaki from the central North Island will enable the development of a new nationally significant value chain that collects, packs and ships from Port Taranaki a major share of quality New Zealand fresh produce direct to Australian ports. Several potential benefits arising from such a transport corridor include:

- Enabling the sale of fresh food as an alternative to frozen and processed food.
- Reducing internal freight costs.
- Minimising on-ship time.
- Serving regions producing 60% of New Zealand's food exports.
- Ensuring that New Zealand can benefit from new shipping technologies.

This therefore requires Taranaki, and in particular Port Taranaki, to play a strategic role in such a transportation concept.